



**8<sup>th</sup>** Regional  
Congress

**Search for SEAMEO  
Young Scientists (SSYS)**

**"Beyond 2012: Greening the Environment  
for a Sustainable Future"**

6 - 9 March 2012  
SEAMEO RECSAM  
Penang,  
MALAYSIA

**INFORMATION  
BOOKLET**

**Organiser:**



Southeast Asian  
Ministers of Education  
Organisation



reCSAM

Regional Centre  
for Education in Science  
and Mathematics



## THE SSYS LOGO

*The SSYS logo is a simplified version of the SEAMEO logo. It symbolises the continued cooperation and unity of the SEAMEO Member Countries. The formation of the letter 'Y' and three 'S'(s) are derived from the title "Search for SEAMEO Young Scientists" (SSYS).*

### COLOURS

*Blue: Blue (colour of the first strand for 'Y') depicts the unity of the SEAMEO young scientists. Their contributions are well unified and invaluable.*

*Green: Green (colour of the second strand of 'Y') depicts the creative inventions from the young scientists that are "Nature-Friendly to the Environment".*

*Red: Red (colour of the third strand of 'Y') depicts strength, enthusiasm and creates an everlasting impression.*

*Orange: Orange (colour of the 3'S's) depicts the vibrance and energy contributed by the team of young scientists. The colour also represents vigour and continued progress of the team.*

*Black/ White: Black or White (colour of the title and year of the congress that will be chosen depending on background contrasting colour) depicts the continuous contributions of SEAMEO young scientists towards Sustainable Development.*

## TABLE OF CONTENTS

	<b>page</b>
Important Dates 2012	3
Rationale and Background	4
Objectives	4
Participation	5
Theme and Specification of Research Projects	5
Congress	7
Report for the Panel of Judges and the Public	8
Guidelines for the Written Report	9
Project Ownership	9
Criteria for Judging the Projects	10
Awards and Prizes	11
Further Information	11
Tentative Programme	12
Appendices	
SSYS Form 1: Confirmation of Participation	
SSYS Form 2: Delegate's Entry Form	
SSYS Form 3: Student-Researchers' Confirmation and Parents' Consent Form	
Proposal Sample	

<b>IMPORTANT DATES 2012</b>	
30 September 2011	Deadline for submission of project proposal, abstracts and <ul style="list-style-type: none"> <li>– SSYS Form 1 (Confirmation of Participation)</li> <li>– SSYS Form 2 (Delegates' Entry Form)</li> <li>– SSYS Form 3 (Student Researchers' Confirmation and Parent Consent Form)</li> </ul>
30 November 2011	Notification of acceptance of proposal
5 January 2012	Deadline for submission of written report (softcopies are accepted)
6-9 March 2012	SSYS Dates (Delegates are required to submit 6 printed copies of their project reports)

## **1. RATIONALE AND BACKGROUND**

The Search for SEAMEO Young Scientists (SSYS) is a gathering of young scientists all over Southeast Asia and beyond as a venue for sharing and dissemination of information on their scientific and mathematical research projects. It was initiated in 1997 and, since then, has been held every two years with a specific theme.

SSYS aims to encourage young learners to apply scientific and mathematical knowledge into technological problem-solving activities to address sustainable development. It plays a strong role in encouraging and involving young learners in projects which will generate much interest in science and mathematics. It also aims to increase the awareness of young learners about the relationship between science, mathematics, technology, environment, economy and society. It aims to foster camaraderie and networking among these young learners through science and mathematics congresses, exhibitions and competitions.

Moreover, SSYS is a platform that provides opportunities to enhance the vast potentials of youth through intellectual activity in conceptualising ideas, and through cooperative teamwork in organising those ideas into more tangible investigative research projects which will benefit the environment, society and economy.

In this 8<sup>th</sup> SSYS Congress, the theme *Beyond 2012: Greening the Environment for a Sustainable Future* has been adopted. Sustainable development is defined as the development that meets the needs of the present without compromising the ability of future generations to meet their own needs (Brundtland Commission, World Commission on Environment and Development, 1987). The three pillars of sustainable development are environment, society and economy.

2012 is claimed by some to be a great year of transformation. Ever since the “2012” movie premiered across the globe, many have tried to interpret whether this so called historic year will see the true event of the destruction of our earth or a major change in the world order. There are many predictions and scientific facts about the year of apocalypse, but there is growing consensus that the world is changing at a rapid pace and environmental challenges abound. In addressing these concerns, sustainability should be made the principle for the future development of humankind. Thus, the young generation and soon-to-be world “leaders” should be made to understand the importance of environment, society and economic integration towards a sustainable future.

We at RECSAM believe that education is essential in attaining sustainability and the present generation of youth, regarded as the hope of the future, should play a crucial role to achieve this end.

## **2. OBJECTIVES**

The SSYS is envisioned as a worthy intellectual venture and an effective medium to promote lifelong scientific and mathematical values, interests, skills, attitudes and motivation among the youth. It is hoped that through the SSYS, there will be an increase in societal well-being through quality science and mathematics education interspersed with technology, environmental, economic and societal awareness.

Specifically, SSYS aims to:

- 2.1 Encourage research and development in science and mathematics among young learners in SEAMEO and other countries;
- 2.2 Provide a forum for the exchange of ideas and experiences among students in SEAMEO and Associate Member countries;
- 2.2 Provide a venue for intellectual and social interactions among students and educators; and
- 2.3 Identify and give recognition to outstanding young science and mathematics researchers.

### 3. PARTICIPATION

#### Category/Official Delegates/Projects

- 3.1 Official delegates (2 teacher advisers and 4 student researchers) should be endorsed by the respective countries' Ministry of Education. The following table summarises the number of delegates and number of projects a country can officially send.

Categories	Maximum Number of Official Delegates		Number of Projects	
	Advisers	Students	Minimum	Maximum
Science	1	2	1	2
Mathematics	1	2	1	2

- 3.2 Advisers are teachers who have actually guided the students in undertaking the project.
- 3.3 Student researchers should be studying in a secondary school.
- 3.4 For the official delegates from the Indo-China countries (namely Cambodia, Lao PDR, Vietnam), Myanmar and Timor Leste, SEAMEO RECSAM will bear the full cost of airfares from the capital cities or the nearest international airport of the said countries.
- 3.5 For the official delegates from Brunei Darussalam, Malaysia, the Philippines, Singapore and Thailand, the cost of airfares will be borne by the respective countries themselves.
- 3.6 For the delegates from the Associate Member countries, all expenses will be borne by the countries themselves.
- 3.7 SEAMEO RECSAM will sponsor board and accommodation of the official delegates.
- 3.8 Parents and officials accompanying the delegates are welcome provided that all the expenses incurred will be shouldered by them.

### 4. THEME AND SPECIFICATION OF RESEARCH PROJECTS

- 4.1 Theme  
The 8<sup>th</sup> Congress adopts the theme *Beyond 2012: Greening the Environment for a Sustainable Future*

## 4.2 General Guidelines

- 4.2.1 The areas of research should be related to the application and the integration of knowledge in Basic Science (Biology/Chemistry/Physics/General) and Mathematics with Technology, Environment or Health which aims at greening the environment for sustainable development.
- 4.2.2 Projects need to focus on the nature of the concept of sustainable development and the three pillars of sustainable development: environment, economy and society.
- 4.2.3 The working language is English.
- 4.2.4 Projects must satisfy the theme of the Congress.
- 4.2.5 The SSYS forms (pg. 14 – 17), the project proposal and the proposal should be sent to the organiser by **30 September 2011**. The project outline and the abstract should specifically identify the category (Science/Mathematics) to which the project is being entered to.
- 4.2.6 Proposal needs to be written according to the format provided in the proposal sample attached.
- 4.2.7 Notification of acceptance will be sent to all candidates on **30 November 2011**.
- 4.2.8 Copies of the written report should reach the Secretariat by **9 January 2012**.

## 4.3 Specific Guidelines on Research Projects

### 4.3.1 Content

The research project must:

- be focused on the given theme;
- be an original work;
- be a result of a current continuing or parallel scientific research and investigation and NOT a duplication of any previous research;
- demonstrate and apply scientific and mathematics principles or attempt to provide new concepts in the process of designing technological activities or creating technological inventions to meet the needs of societal development;
- have relevance or contribute to the livelihood development of society or community and environment, in meeting human needs and/or promoting the socio-economic growth of the society; and the community in particular;
- reflect the needs of the community and how it can be sustained; and
- be cost-efficient, environment-friendly and feasible.

4.3.2 Collaboration with lecturers, academics or scientists is highly encouraged. However, the scope of involvement of the collaborators should be clearly defined and described. The written report must specifically delineate the work done by the student(s) on the project.

### 4.3.3 Exhibits, Backboard/Backdrop, Materials, and Accessories for Display

All projects will be displayed in an exhibition for the public to view. The panel of judges will be viewing the exhibits for judging. The research project exhibit on display must:

- fit two display panels each with dimensions 0.9 m by 2.1 m;
- be sturdy and strong/durable with parts firmly attached; lightweight, can be easily set-up and taken down, transportable and self-supporting;
- be complete with accessories with the panels joined with hinges so that the project can be folded and unfolded easily;

- ensure that any information, pictures, graphs, or other images be held down with masking tape for easy removal or re-arrangement;
- observe safety measures in the case of electrical items or presentations with computers or chemicals; and
- not contain any live organisms, specimens, poisonous materials or chemicals which are toxic or explosive.

#### 4.3.4 Accessories or Attachment

- The submission of projects involving the use of information and communication technology or multimedia has to include the relevant accessories or attachment, e.g. computer or video compact discs, CDs, slides, etc.
- During the exhibition of the projects, no LCD projector, computer, OHP, DVD player, or any audio-video equipment will be provided. Should the delegates require this equipment, they have to secure the equipment themselves.
- Common science laboratory apparatus (test tubes, beakers, thermometers, etc.) and mathematics tools (compass, rulers, etc.) will be provided upon request. The request should be submitted along with the soft copies of the report by 9 January 2012 using the form provided.
- Two display panels, 1 table, 2 chairs and 1 power outlet will be provided for each project.

## 5. CONGRESS

The Science and Mathematics Congress is a venue where the delegates will present their projects to the members of the panel of judges and the public.

- 5.1 A delegate or one of the delegates (in case there are two of them) in a category (Science/Mathematics) will present the project.
- 5.2 Presentation should be done using MS PowerPoint. Presentation files will be collected from the delegates prior to the event. The use of OHP is also allowed. However, any request for the equipment should be done at least a month before the actual event.
- 5.3 The order of presentation for each project will be determined by drawing lots. Each project will be identified by codes. The codes will be assigned to each project as they submit the abstract and project outline.
- 5.4 Presentation should only be for 5 to 10 minutes for each project. Should the presentation end before the time, the presenter should announce “end of presentation”. To remind the presenter of the time remaining, a notice board with the message “two minutes” will be showed. At the end of two minutes, a “thank you” notice will signal the end of the presentation.
- 5.5 Immediately after the presentation, a question and answer session by members of the floor will follow (within the time limit provided).

## 6. REPORTS FOR THE PANEL OF JUDGES AND THE PUBLIC

- 6.1 Delegates need to submit a copy of the written report, bound and in soft copy, formatted in MS Word and addressed to the organiser, on or before **9 January 2012**.
- 6.2 At least 6 hard copies of the reports need to be prepared for distribution during the Congress.
- 6.3 The soft copies may be sent to the secretary through this address: [baharulnizam\\_baharum@recsam.edu.my](mailto:baharulnizam_baharum@recsam.edu.my)
- 6.4 The format of the written report should strictly follow the sequence as shown in the table below:

<b>Page</b>	<b>Description</b>
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	Lists all the content areas with the number 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.
Introduction and Background of Study/Literature Review	Background of the project Statement of the problem Significance or purposes of the study Definition of terms Scope and limitations Review of literature on the areas relevant to the study
Research Method and Process	Design and detail of the project Materials and equipment Treatment or procedures
Results and Findings	Analysis of data Interpretation of results and findings
Conclusions and Recommendations	How the result of the project can be significant Suggestions and recommendations
References	A list of books 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

## **7. GUIDELINES FOR THE WRITTEN REPORT**

All written reports should adhere strictly to the following specifications:

- 7.1 A4 paper should be used.
- 7.2 Times New Roman (TNR) font should be used.
- 7.3 The title is written using 20 pt TNR, centred.
- 7.4 Names of students and advisers should be written in 14 pt TNR, centred.
- 7.5 Section headings: 14 pt TNR, bold, left justified.
- 7.6 Subsection headings: 12 pt TNR, bold, left-justified.
- 7.7 Margins should be set at 2 cm on all sides of the papers.
- 7.8 Single spacing should be used.
- 7.9 Tables and figures must be properly captioned and numbered.
- 7.10 APA style should be followed in preparing the manuscript and citing references in the text. For APA reference, please refer to <http://www.apastyle.org/>
- 7.11 Grammar and format should be properly observed, edited and checked.
- 7.12 The number of pages should be between 10 to 20 pages including references and appendices.

## **8. PROJECT OWNERSHIP**

Since the project could be sponsored by various organisations, the sponsors have the right to full ownership of the project. After the presentation of the projects in the Congress, the projects will be kept by RECSAM. Delegates from the participating countries who wish to make copies of their projects may consider duplicating their respective projects as the copies submitted to RECSAM will not be returned.

Copyright Statement: The following copyright statement should be included at the end of the paper.

Copyright © 2010 <Name of Author 1>, <Institution>, <Name of Author 2>, <Institution>. The authors grant a non-exclusive license to SEAMEO RECSAM, Penang, Malaysia, organiser of the SSYS, to publish this document. Any other usage is prohibited without the consent or permission of the author(s).

## 9. CRITERIA FOR JUDGING THE PROJECTS

SSYS is designed as a congress or forum for the exchange of ideas and experiences among student researchers in SEAMEO member countries. To encourage and give recognition to potential young scientists, the projects are judged based on the following criteria:

<b>COMPONENTS</b>	<b>CRITERIA</b>	<b>PERCENTAGE (%)</b>
<b>Project Exhibit (25%)</b>	Use of scientific and mathematics principles or approaches	10
	Originality/ingenuity or creativity/innovativeness of work	10
	Use of computers/ICT knowledge (for projects involving ICT/multimedia) or technical/graphical skills (for the projects not involving ICT/multimedia)	5
<b>Presentation (25%)</b>	Skills in presentation	10
	Scientific and mathematical thought and creativity	5
	Interactive abilities which include the quality of questions asked and responses given during the presentation	5
	Overall personality	5
<b>Written Report (25%)</b>	Abstract	5
	Introduction and Background of Study/Literature Review	5
	Research Method and Process	5
	Results, Findings and Discussion	5
	Conclusions and Recommendations	5
<b>Significance of Project (25%)</b>	Relevance to the theme	10
	Immediate benefit to local community	5
	Educational contribution	5
	Commercial potential	5
<b>TOTAL</b>		<b>100</b>

Scores in each component will be totalled and the project with the highest score in each component will be awarded Outstanding Award for Research Report, Outstanding Award for Presentation of Exhibits, Outstanding Award for Presentation in Congress and Outstanding Award for Significant Project. The overall highest score will be awarded Most Promising Young Scientist(s) for Science or Mathematics Category. There will also be special awards given to projects that show potential in six different areas.

## 10. AWARDS AND PRIZES

The table below summarises the various awards to be given during the Congress.

CATEGORIES	AWARDS
Science	Most Promising Young Scientist(s) for Science Category
	Outstanding Award for Research Report
	Outstanding Award for Presentation of Exhibit
	Outstanding Award for Presentation in Congress
	Outstanding Award for Significant Project
	Special Award for Immediate Benefit to the Local Community
	Special Award for Educational Contribution for Economy, Environment & Society
	Special Award for Commercial Potential Development of a Product for Society and Environment
	Special Award for the Application of Science Principles & Processes
	Special Award for Creativity/Innovation
	Special Award for Application of Technology in relation to Congress Theme
Mathematics	Most Promising Young Scientist(s) for Mathematics Category
	Outstanding Award for Research Report
	Outstanding Award for Presentation of Exhibit
	Outstanding Award for Presentation in Congress
	Outstanding Award for Significant Project
	Special Award for Immediate Benefit to the Local Community
	Special Award for Educational Contribution for Economy, Environment & Society
	Special Award for Commercial Potential Development of a Product for Society and Environment
	Special Award for the Application of Mathematics Principles & Processes
	Special Award for in Creativity/Innovation
	Special Award for Application of Technology in relation to Congress Theme

- Trophies or other types of awards and certificates of achievement will be given to the winners.
- Plaques of appreciation will be awarded to all participating SEAMEO and Associate Member countries.
- Plaques of participation will be awarded to all student delegates.
- Plaques of recognition will be given to all teacher advisers.

## 11. FURTHER INFORMATION

For further information, please contact the SSYS Secretary, Mr. Baharulnizam Baharum, at [baharulnizam\\_baharum@recsam.edu.my](mailto:baharulnizam_baharum@recsam.edu.my)

**SEARCH FOR SEAMEO YOUNG SCIENTISTS  
THE 8<sup>TH</sup> REGIONAL CONGRESS**

**Tentative Programme**

<b>TENTATIVE PROGRAMME</b>							
<b>DAY/TIME</b>	<b>8.00 AM</b>	<b>10.30 AM</b>	<b>11.00 AM</b>	<b>1.00 PM</b>	<b>2.00 PM</b>	<b>5.00 PM</b>	<b>EVENING</b>
5 March 2012 (Arrival Day)	Arrival of Judges and Delegates / Check-in and REGISTRATION Setting up of Project Exhibits (until 6.00 PM) Meeting of Judges						
6 March 2012 (Tuesday)	Welcome ceremony Photo session Briefing for judges and delegates (SEAMEO Hall)	TEA BREAK	Presentation of Projects	LUNCH	Presentation of Projects	TEA BREAK	FREE
7 March 2012 (Wednesday)	Presentation of Projects	TEA BREAK	Judging of Project Exhibits	LUNCH	Judging of Project Exhibits	TEA BREAK	FREE
8 March 2012 (Thursday)	Judging of Project Exhibits	TEA BREAK	Judging of Project Exhibits	LUNCH	Penang Island Tour		
9 March 2012 (Friday)	8.00 AM – 9.00 AM  FORUM	Exhibition for Public Viewing & Networking Session	TEA BREAK	Exhibition for Public Viewing & Networking Session	12.15PM - 2.45PM  LUNCH	3.00 – 5.00PM  Viewing of Exhibits by Guest of Honour  Award Presentation Ceremony & Hi-Tea	
10 March 2012 (Departure Day)	Check-out from International House before 12.00 NOON						

### **5 March 2012 (Monday)**

- \* Check-in at the International House
- \* Registration and Distribution of Congress kits to the delegates
- \* Setting up of project exhibits
- \* Drawing of lots to determine the order of projects for presentation
- \* Meeting of judges

### **6 March 2012 (Tuesday)**

- \* Welcome Ceremony
  - Welcome speech by the Centre Director
  - Presentation of Delegates by Countries
- \* Briefing of Judges and Delegates
  - Briefing on the criteria for judging
  - Briefing on the presentation of projects during the Congress
- \* Science and Mathematics presentation
  - Each team will have 5 to 10 minutes to present the project, followed by question and answer session

### **7 March 2012 (Wednesday)**

- \* Science and Mathematics presentation
  - Each team will have 5 – 10 minutes to present the project, followed by question and answer session
- \* Exhibition and Judging
  - Delegates are to interact with judges and answer questions and other queries.

### **8 March 2012 (Thursday)**

- \* Exhibition and Judging
  - Delegates are to interact with judges and answer questions and other queries.
- \* Penang Island Tour
  - Delegates are to assemble in front of the International House at 2pm.

### **9 March 2012 (Friday)**

- \* Forum
  - Expert(s) will speak on topic(s) related to the theme of the Congress
- \* Exhibition is open for public viewing.
- \* Awards Presentation and Hi-Tea
  - Representative of student delegates, the Centre Director and Guest of Honour will deliver speeches.
  - The Guest of Honour will hand out the plaques of recognition, participation and souvenirs to the members of the panel of judges, teacher advisers and student researchers.
  - The Guest of Honour will present the awards to the winners.
  - Photo session

### **10 March 2012 (Saturday)**

- \* Check-out from the International House and depart for home.

# **APPENDICES**

## **ENTRY FORMS AND PROPOSAL SAMPLE**

## CONFIRMATION OF PARTICIPATION

SSYS FORM 1

To: The SSYS Secretariat  
 SEAMEO RECSAM  
 Jalan Sultan Azlan Shah  
 11700 Gelugor, Penang, Malaysia  
 (Fax: +6 04 6522 742/ +6 04 6522 737)

SUBJECT: SEARCH FOR SEAMEO YOUNG SCIENTISTS: 8<sup>th</sup> REGIONAL CONGRESS  
 (6-9 MARCH 2012)

Sir / Madam:

We wish to convey our (participation / regret not to participate\*) in the SEARCH FOR SEAMEO YOUNG SCIENTISTS: 8<sup>th</sup> REGIONAL CONGRESS on 6-9 March 2012 at Penang, Malaysia.

*If participating, please indicate the particulars of the official delegates as follows:*

Category	Student-Researchers	Teacher-Advisers	Particulars of Schools
Science	Name:	Name:	School name:
	Date of Birth:	Date of Birth:	School address:
	Passport No.:	Passport No.:	School Tel No.:
	Personal contact no.:	Personal contact no.:	School Fax No.:
	Personal email:	Personal email:	School Email:
Mathematics	Name:	Name:	School name:
	Date of Birth:	Date of Birth:	School address:
	Passport No.:	Passport No.:	School Tel No.:
	Personal contact no.:	Personal contact no.:	School Fax No.:
	Personal email:	Personal email:	School Email:

Name: \_\_\_\_\_

Signature of Ministry of Education Official: \_\_\_\_\_

Official Designation: \_\_\_\_\_

Country: \_\_\_\_\_ Date: \_\_\_\_\_

\*Delete whichever not applicable  
**(To be submitted by 30 September 2011)**

## DELEGATES' ENTRY FORM

SSYS FORM 2

### SEARCH FOR SEAMEO YOUNG SCIENTISTS 8<sup>th</sup> REGIONAL CONGRESS (6-9 MARCH 2012)

To: The SSYS Secretariat  
SEAMEO RECSAM  
Jalan Sultan Azlan Shah  
11700 Gelugor, Penang, Malaysia  
(Fax: +6 04 6522 737)

COUNTRY: \_\_\_\_\_

CATEGORY: \_\_\_\_\_

PROJECT TITLE: \_\_\_\_\_

*I. PROFILE OF THE STUDENT – RESEARCHER*

Name of Student- Researchers	Sex	Age	Year / Level	Information on school
Name: Tel no.: Email:				School name:
				School address:
				School Tel No.:
				School Fax No.:
				School Email:
Name: Tel no.: Email:				School name:
				School address:
				School Tel No.:
				School Fax No.:
				School Email:

*II. PROFILE OF THE TEACHER - ADVISER*

<b>Name of Student-Researchers</b>	<b>Sex</b>	<b>Official Designation / Position</b>	<b>Information on institution / school</b>
Name: Tel no.: Email:			Institution/school:
			Address:
			Tel No.:
			Fax No.:
			Email:

Note: Please use separate sheets for each category (Science/Mathematics) and for every project title.

Name: \_\_\_\_\_

Signature of School Administrator/Principal: \_\_\_\_\_

Date: \_\_\_\_\_

**(To be submitted by 30 September 2011)**

## STUDENT-RESEARCHERS' CONFIRMATION AND PARENTS' CONSENT FORM

SSYS FORM 3

To: The SSYS Secretariat  
SEAMEO RECSAM  
Jalan Sultan Azlan Shah  
11700 Gelugor, Penang, Malaysia  
(Fax: +6 04 6522 737)

SUBJECT: SEARCH FOR SEAMEO YOUNG SCIENTISTS: 8<sup>th</sup> REGIONAL CONGRESS  
(6-9 MARCH 2012)

WE, the undersigned student-researchers and proponents of the project \_\_\_\_\_  
\_\_\_\_\_ (Title of the Project)

from \_\_\_\_\_  
\_\_\_\_\_ (Name of School and  
Address) representing \_\_\_\_\_ (Name

of Country) hereby confirm our participation to the **Search for SEAMEO Young Scientists: 8<sup>th</sup> Regional Congress on 6-9 March 2012 at Penang, Malaysia** and further certify that the said project is our work completed under the guidance of our teacher-advisers following the guidelines of the Congress, and subscribe to abide by all the rules and regulations of the Organisers.

We certify that our parents and / or guardians, whose names and signatures appear below, grant us permission to participate in the 8<sup>th</sup> **SSYS Regional Congress 2012**. They are fully aware that the Organisers will not be held liable and accountable for any untoward incident that may happen to us which are beyond the Organiser's control, scope and jurisdiction.

\_\_\_\_\_  
Name

and

\_\_\_\_\_  
Signature of Student-Researcher 1

\_\_\_\_\_  
Name

and

\_\_\_\_\_  
Signature of Parent/Guardian of  
Student-Researcher 1

\_\_\_\_\_  
Name

and

\_\_\_\_\_  
Signature of Student-Researcher 2

\_\_\_\_\_  
Name

and

\_\_\_\_\_  
Signature of Parent/Guardian of  
Student-Researcher 2

**(To be submitted by 30 September 2011)**

# PROPOSAL SAMPLE – PORTABLE SOLAR ENERGY GENERATOR CHARGER

**Design a Portable Solar Energy Generator Charger** (<http://sampleproposal.net/>)

## Introduction

In today's generation, cell phone chargers are inseparable entity of any cell phone. There is no cell phone in the world which is free of its chargers. With the advent of new sophisticated cell phone in the market, cell phone users are paying much importance to its charger.

The portable solar energy generator charger is a project that aims to harness natural sources of energy. With traditional energy sources running low, and process rising, most people are taking advantage of "free" energy as long as it can be implemented safely. Using this gadget, cell phone can be charge anywhere and anytime.

In conclusion, the solar power generation is an ideal alternative power energy source. It gives us savings and cleans the air we breathe in. The benefits actually have a chain reaction of positive effects around the globe. It will lower the price of fuel, it will improve our economy, and we will have a cleaner environment.

## Background of the Study

Electric Charger is the indispensable item for any owner of a cell phone, iPod or other rechargeable electronic device. Cell phone users always want to turn on their cell phone to stay connected with their friends and relatives. In case of power failure, cell phone users cannot use their electric charger to charge electricity.

The researcher comes up to design a portable solar energy generator charger to keep cell phone fully charged even miles away from conventional electricity. It is an ultimate reliable emergency power supplies for cell phones because it never gets used up and never wears out or stop working.

## Objectives

### General Objective

- Develop Adjustable Solar-Powered Electric Generator

### Specific Objectives

- To design a Portable Solar-Power Generator Charger;
- To determine the minimum requirements for the selection of a location where to prototype can be implemented; and
- To test the prototype in terms of accuracy and the relationship of the intensity of light and voltage output.





**SEAMEO RECSAM** stands for Southeast Asian Ministers of Education Organisation - Regional Centre for Education in Science and Mathematics. Established by SEAMEO in May 1967, RECSAM is committed to promoting and enhancing quality science and mathematics education among its Member Countries consisting of Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, the Philippines, Singapore, Thailand, Timor Leste and Vietnam.

RECSAM shares the vast expanse of the campus ground with the Institut Pendidikan Guru Kampus Pulau Pinang (Teacher Education Institute Penang Campus) in Jalan Sultan Azlan Shah, Gelugor, fringing the city limits of Georgetown, which is the metropolitan capital of the State of Penang. The island state is located in the north-western part of Peninsular Malaysia.

Since its inception, RECSAM, one of its kind in the region which is dedicated to the development of educational manpower, has been playing the role of a catalyst for the advancement of science and mathematics education at the primary and secondary school levels among its Member Countries. Ever surging forward, RECSAM is now in the midst of its Ninth Five-Year Plan (July 2010 - June 2015) and more than 20,000 key educators have graduated from its training, development and research courses. As RECSAM forges ahead with its programmes and activities, it not only draws upon its reserve of resources and past experiences but also continuously examines the development of science and mathematics education in the SEAMEO Region as well as in the world at large. In keeping with current global trends and developments, RECSAM carries out its science and mathematics education courses in the context of values and needs of changing societies.