

**SEAMEO Regional Centre for Education in Science and Mathematics** 

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**Completion of** Regular Courses FXY. 2018/2019 (Batch 2)





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Christmas Party

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#### Completion of Regular Courses F.Y. 2018/2019 (Batch 2)



**RECSAM** once again successfully conducted its regular courses for F.Y. 2018/2019 (Batch 2) from 1 to 26 April 2019 with a total number of thirty (30) educators from the following SEAMEO Member Countries: Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar Philippines and Thailand. The duration of these courses was for a period of four (4) weeks.

#### RC-SS-143-3: Purposeful Assessment in Secondary Science Classrooms

A total of ten (10) participants from Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar and Philippines successfully completed this course. This course was supervised by Mr. Lee Shok Mee.

#### RC-PM-143-4: Enhancing Primary Mathematics Learning in the STEM Environment

Twenty (20) participants from Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines and Thailand successfully completed this training course. This course was supervised by Dr. Warabhorn Preechaporn.

#### **Certificate Presentation Ceremony**



**THE 143**<sup>rd</sup> **CERTIFICATE PRESENTATION CEREMONY** of Regular Courses for F.Y. 2018/2019 (Batch 2) was held on 26 April 2019 at RECSAM. The ceremony was graced by Mr. Ismail B. Mohd Said, representing Dr. Mahanom binti Mat Sam, the Director of Penang State Education Department. He thanked RECSAM for conducting the courses and added that these courses were an eye-opener where science and mathematics teachers and educators gained immense knowledge and skills.

#### In-Country Training Course for Indonesian Teachers and Educators



THE IN-COUNTRY TRAINING COURSES on "Going Back to the Fundamentals: Models and Heuristics for Mathematics Educators" and "Going Back to the Fundamentals: Contextbased Learning and Science Process Skills for Science Educators" were held concurrently at SMA Negeri 1 Tenggarang, Bondowoso, East Java, Indonesia from 22 to 25 April 2019. A total of 24 mathematics and 26 science teachers attended the four-day courses. These training courses were aimed at enhancing secondary mathematics and science teachers' skill competency and build their confidence and capability in improving performance in mathematics and science teaching. Through these training courses, participants were exposed to varied interactive activities to model the active teaching and learning approaches in teaching mathematics and science. They were given the opportunity to be engaged in various activities such as constructing 21st Century lesson and teaching the lesson using low cost and locally available materials to make them interesting by using heuristics for mathematics learning. Activities for the science course include discrepant events, fair test investigations, concept cartoons, planning and investigation template, STEM projects and developing science lessons focusing on science process skills. These training courses were coordinated by Ms. Marta Mila Sughesti and organised by Drs. Mahrus Syamsul, head of Cabang Dinas Pendidikan, Wilayah Kabupaten Bondowoso with Dr. Saiful Rachman, head of Ministry of Education and Culture Provincial Education Office, Surabaya, Indonesia. Dr. Murugan A/L Rajoo, Mathematics Education Specialist and Mr. Dominador D. Mangao, Science Education Specialist cum Acting Deputy Director from R&D Division of RECSAM served as course facilitators.



#### **Regional Science Olympiad Test Students' Skills**



THE FIRST SEAMEO SCIENCE OLYMPIAD (SEASO) was recently held from 5 to 8 March 2019 at RECSAM, Penang Malaysia. Aimed at bringing science to life and developing teamwork and project-based learning (PBL) among students, about 118 next generation young students and teachers across the Southeast Asia region participated in this event.

In the student category, the students went through four levels of competition that comprised of paper and pencil test as well as handson Science, Technology, Engineering and Mathematics (STEM) challenge. Each level tested the students' understanding of science, technology, engineering and mathematics. The competition required every team to complete four levels of problem-solving science related activities namely; Paper and Pencil Test (Level 1), Egg Drop Challenge (Level 2), Impromptu Presentation (Level 3) and Water Rocket Challenge (Level 4).

Twenty-eight teams participated in the event, with the team from Philippines finally emerging as the overall champion, the Malaysian team in second place and the Thailand team in third. They took home a gold medal, a challenge trophy, an individual trophy, certificate of achievement and RM1000 cash prize. Both teams from Malaysia and Thailand also picked up medals, trophies, certificates of achievement and RM700 and RM500 each respectively.

This year, students Kyle Nathan G. Naranjo, representing the Philippines and Elmeeza Bazillah binti Abdullah Muhammad Yasrinal Eddy Abdullah from Brunei Darussalam garnered the Science Ambassador. For their efforts, both students received certificates of achievement, trophies and cash prize of RM200 each. Competing against 92 student contestants from Brunei Darussalam, Cambodia, Malaysia, Philippines, Singapore, Thailand and Vietnam, students Kyle Nathan and Elmeeza Bazillah topped the Level 1 individual category with the highest accumulated points by answering 100 questions, which were a mix of multiple choice and subjective questions.

In the teacher category, there were two levels. Level 1 involved recording, editing and creating a video/static presentation based on the students' activity in Levels 2 and 4. While in Level 2, teachers were required to answer 100 questions in up to 60 minutes using an answer sheet.

Under the teacher's category, teacher Marjorie A. Nariz and Ayra Patricia from the Philippines emerged as Champion followed by Thailand (Phanbupha Jinawong & Temsiri Sirisombat) as 1<sup>st</sup> runner-up and Malaysia (Muazam Mokhtar) as 2<sup>nd</sup> runner-up. The teacher's category team from the Philippines won a gold medal, RM800 cash prize and certificates of achievement. Meantime, the teams from Thailand and Malaysia secured the silver and bronze medals, RM600 and RM400 cash prizes and certificates of achievement respectively.

The panel of judges for the STEM Challenge and teachers' category competition were Ms. Mary Jane O'Callaghan (Curtin College, Australia), Mr. Yuji Otsuka (Science Education Specialist, SEAMEO RECSAM), Mr. Lee Shok Mee (Consultant, SEAMEO RECSAM) and Mr. Gan Teck Hock (Mathematics Education Specialist, SEAMEO RECSAM).

All well-deserved winners were given recognition and received their awards on 8 March 2019 from the Guest of Honour, Dr. Gatot Hari Priowirjanto, the Director of SEAMEO Secretariat.

The SEAMEO Science Olympiad is a unique platform of inspiration and scientific knowledge simulation of future scientists and science academicians all over Southeast Asia and beyond. SEASO is also a venue for sharing and dissemination of information on all fields of science studies, namely physical science, life science, social science, formal science and applied science. The programme plays a strong role in encouraging and involving young learners in pursuing science knowledge as well as to increase their awareness about the relationship between various science fields in daily lives.





#### RECSAM Inks MoU (Memorandum of Understanding) with PPPPTK MATEMATIKA, Indonesia



**RECSAM AND PPPPTK MATEMATIKA** (Centre for Development and Empowerment of Mathematics Teacher and Education Personnel), Indonesia recently signed a Memorandum of Understanding (MoU) to facilitate academic cooperation between the two institutions. The MoU was signed by Mr. Taufek Bin Muhamad, Acting Centre Director of SEAMEO RECSAM and representative, Ms. Anna Tri Lestari, Head of Programme Section on behalf of Dr. Dra Daswatia Astuty, Head of Centre, PPPPTK MATEMATIKA on 12 March 2019 at RECSAM, Penang. Through this partnership, both institutions will conduct joint educational-related research activities, training programmes, partnership on implementation of joint programmes and activities in the form of short course for Indonesian mathematics teachers as well as other educational projects in areas of mutual interest. The signing ceremony was witnessed by the 26 (twenty-six) course participants from PPPPTK and the management and professional team of RECSAM.

#### Workshop on "Introducing STEM Learning in Preschools"



A TRAINING workshop on "Introducing STEM Learning in Preschools" was held at RECSAM on 23 and 24 March 2019 for a group of preschool teachers. The aim of this workshop was to expose participants to STEM learning in preschools and to discuss ways to introduce STEM learning in preschools. The workshop covered discussions about STEM learning and activities on how the four disciplines can be integrated as an approach for meaningful learning of real world problems that arouse interest and also for cognitive development among preschoolers. Participants were taught how to carry out STEM leasons, and most importantly on ways to design STEM learning lessons for future use. The participants were also exposed to some interesting hands-on STEM related activities, presentations and sharing of ideas on relevant topics by the peers. This workshop was conducted by Datin Dr. Ng Soo Boon and her team from the Curriculum Development Division, Ministry of Education, Malaysia. A total of 52 (fifty-two) pre-school teachers had benefited from this training workshop.

#### Short Course on "Enhancing Primary Mathematics Learning in the STEM Environment"



A SHORT TRAINING COURSE for teachers and educators from the Centre for Development and Empowerment of Educators and Education Personnel Mathematics (PPPPTK Matematika), Indonesia on "Enhancing Primary Mathematics Learning in the STEM Environment" was held at RECSAM from 11 to 29 March 2019. This training course was aimed to equip participants with pedagogical knowledge and skills on how to help students integrate mathematics with other STEM subjects in appropriate contexts and real world issues. The learning in real world context would help to develop student thinking and problem solving skills through inquiry-based learning and problem solving. Course participants experienced various instructional models and were engaged collaboratively to facilitate creativity and inquiry learning. Throughout the duration of the course, participants were also engaged in discourse, shaping arguments, solving problems, experimenting, designing, creating, and gathering supporting evidence. All the sessions involved hands-on activities of mathematics teaching and learning with special focus on problem-based and inquiry-based learning approaches. A total of 26 (twenty-six) teachers /educators participated in this training course. Ms. Teh Kim Hong was the course supervisor and was assisted by Mr. Gan Teck Hock as the co-supervisor.



Workshop on "Enhancing Critical and Computational Thinking through Design-Based Approach in STEM Context: Challenge to Transform STEM Education in Artificial Intelligence (AL) Generation Education"





A WORKSHOP on "Enhancing Critical and Computational Thinking through Design-Based Approach in STEM Context: Challenge to Transform STEM Education in Artificial Intelligence (AL) Generation Education" by Assoc. Professor Dr. Tairo Nomura, Director of STEM Education from the Faculty of Education, Saitama University, Japan was held at RECSAM from 26 to 28 March 2019. Dr. Tairo highlighted the importance of Computational Thinking (CT) as one of the important elements of STEM fields. This workshop was aimed to expose participants to hands-on teaching based from Japanese way of STEM education using Points of View (PoV) and Ways of Thinking (WoT) in the area of CT. More specifically, participants were exposed to knowledge and skills related to (i) critical thinking and computational thinking to enhance STEM Project-based Learning, (ii) engineering design process, model and product development, and (iii) the use of technology to enhance students' problem-solving skills, creativity and critical thinking in STEM lessons via various hands-on activities. A total of 24 (twenty-four) participants registered for this workshop. RECSAM organised this workshop in collaboration with the Ministry of Education, Culture, Sports, Science & Technology (MEXT), Japan and SEAMEO Secretariat, Bangkok, Thailand.

#### **Benchmarking Visit from SEAMEO SEN**



**ON 30 AND 31 JANUARY 2019**, RECSAM played host to a group of delegates from SEAMEO SEN (SEAMEO Regional Centre for Special Education), Malacca. The delegation was led by Datin Era Zaffura binti Md Sin, Administration/Finance Executive of SEAMEO SEN. These delegates were received by RECSAM's management team led by Mr. Taufek Bin Muhamad, the Acting Centre Director. After receiving a warm welcome from the Acting Centre Director, an in-house "*RECSAM Forges Ahead*" corporate video presentation was shown. This was then followed by a brief presentation of the Center's activities & programmes by the management team. The delegation was briefed on the Center's programmes and activities and plans for action in the next coming fiscal year. The delegates also spent time with RECSAM's management team in a question & answer (Q&A) session, discussing ideas as well as best practices in areas including programme design & evaluation and RECSAM's role in training and research & development on the first day of the visit. On the second day, RECSAM carried out the MyPortfolio workshop for all the delegates which was facilitated by Mr. Taufek. During the workshop, Mr. Taufek discussed about function chart, activities of functions and work processes and workflow. The two-day sessions ended with token presentations, a group photo session and a simple luncheon for all the delegates.





#### Training Teachers to Integrate Gender Responsiveness in STEM Education



SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS (STEM) play a key role in realising the 2030 Agenda for Sustainable Development. While much progress has been made in the past decades, countries are still suffering from lack of professionals in STEM-related fields and, among them; women exceptionally are still underrepresented even with this mounting demand. In this rapidly changing, knowledge-based world and in light of the dawn of the fourth industrial revolution, equipping girls and women with STEM competencies will be a driver of development and contribute to their development as equally empowered, proactive and responsible citizens. In light of promoting the participation of girls in STEM-related fields, UNESCO Bangkok (Asia and Pacific Regional Bureau for Education) and RECSAM, partnered to develop training materials and conduct in-service teacher training on gender-responsive pedagogy in STEM education for 16 (sixteen) key national trainers for secondary school teachers from Lao PDR from 11 to 22 February 2019.

With the overall goal of equipping these key national trainers with the knowledge and skills necessary to be future resource trainers in the subject of gender-responsiveness pedagogy in STEM education and to guide them on the development of training materials to be used in in-service training to enable secondary school teachers of STEM subjects to use gender-responsive pedagogy effectively, the course walked the participants through the theoretical underpinnings of the theory and practice of gender-responsive STEM education, in order to support its effective development at the school and classroom levels.

Through collaborative work, field-study and hands-on activities, course participants were introduced to pedagogical techniques and pointers on how to develop gender-responsive educational activity, which incorporates the fundamental elements of current trends and issues in science, mathematics and technology education (gender-biased, 21<sup>st</sup> century learning skills), principles of developing gender-sensitive STEM teaching and learning resources, gender inclusive STEM pedagogy: IBSE instruction and the roles of trainers and teacher educators to promote STEM Education.

Through this effort, RECSAM believes that building the capacity of teachers on strengthening and mainstreaming gender and gender responsiveness in STEM teaching and learning practices is a leap forward towards achieving the 2030 Sustainable Development Goals. The project is funded and supported UNESCO Bangkok (Asia and Pacific Regional Bureau for Education) and RECSAM was the implementing agency for this project.

#### Workshop on "Useful 10 Minutes Teaching Aids using Local Materials for Effective Teaching and Learning of Science"



A TRAINING WORKSHOP on "Useful 10 Minutes Teaching Aids Using Local Materials for Effective Teaching and Learning of Science" for science and mathematics teachers and educators was held at RECSAM on 8 & 9 April 2019 by Mr. Yuji Otsuka, Science Education Specialist based at RECSAM. The aim of this workshop was to introduce participants to a number of individual and group hands-on science activities based on "STEM Education". Workshop participants were taught how to redesign and modify the materials to suit their needs in classroom science lessons and obtain practical science skills and knowledge to create effective teaching materials in their own lessons. Through this workshop, participants were able to conduct effective experiments in science lessons and design low cost teaching materials which can be used in actual lessons at schools through step by step guide. The two-day training was conducted in a workshop format with 5 to 6 participants in a group. Fifty-four (54) teachers and educators participated in this workshop.



Workshop on "Enhancing Communication English in the 21<sup>st</sup> Century through Science and Mathematics" for Students from Benchamaracharungsarit School, Thailand



**TWO (2) BATCHES OF FOUR-DAY** workshop on "*Enhancing Communication English through Science and Mathematics*" was held at RECSAM for students from Benchamaracharungsarit School, Thailand. The first batch involved a total of 73 (seventy-three) students and teachers from 15 to 18 January 2019. The second batch involved 74 (seventy-four) students and teachers from 22 to 25 January 2019. Both batches of students went through the same programme. Through this workshop, participants were exposed to various learning context to provide opportunities for them to speak using English language. The participants also gained deeper understanding of some selected topics of science and mathematics through exploration activities and problem-based learning. In addition, they were engaged in different learning strategies to develop important 21<sup>st</sup> century learning skills through designing simple toys and models to aid understanding of abstract concepts in science and mathematics. This workshop was essentially activity-oriented with active involvement of participants in group discussions, demonstrations and presentations.

#### Colloquium on "Integrated STEM and Science Beliefs and Attitudes of SEAMEO Students"



A COLLOQUIUM on "Integrated STEM and Science Beliefs and Attitudes of SEAMEO Students" was held at RECSAM on 10 January 2019. The topics discussed during the session were "Integrated STEM Workshop" and "Beliefs and Attitudes towards Science and Science Education of SEAMEO Grade 9 and 10 Students: A Research Report". The talks were facilitated by Assoc. Prof. Dr. Wan Ng and Dr. Jennifer Fergusson from STEM Education Futures Research Centre, University of Technology Sydney, NSW, Australia. Almost 90 (ninety) teachers from primary and secondary schools as well as lecturers from Teacher Training Institutes (IPGs) in Penang and neighboring States participated in this event.

**A Christmas Party to Cherish** 



**CHRISTMAS SEASON** is a jolly good time to spread warmth, love and hope. On 11 January 2019, RECSAM brought Christmas cheer to its staff in appreciation of another successful year and to celebrate the holiday season. RECSAM's Acting Centre Director, Mr. Taufek Bin Muhamad was present to grace the happy occasion along with the rest of the staff. The Acting Centre Director set the ball rolling with a brief heart-warming message. Staff were also entertained with special Christmas presentation and were invited to feast on the Christmas hi-tea offerings. There was a widespread of delectable food choices that included whole roast lamb, spaghetti, international selections and a great dessert island. It was indeed heart-warming to see the smiles and joy on the staff's faces as they dined and mingled among each other.





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#### A Celebration of Togetherness



**DURING** the monthly assembly on 1 March 2019, RECSAM organised a Chinese New Year celebration gathering for all staff members. All Chinese colleagues were dressed in their best costumes and dished out oranges for wealth and good fortune. There were specially ordered cookies, cakes and snacks and the favourite was certainly the symbolic and mouth-watering "love letters" or *"kuih kapit*". Everyone had a delightful feast and it was a great festive gathering to be remembered!

#### Staff Development Programme



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#### **Meetings and Other Events**



**TO THE FOLLOWING** former staff of RECSAM, we wish you all the best in your future endeavours. Your dedication and contribution to the Centre would be greatly remembered!



Farewell

**Ms. Siti Fatimah binti Mohd Kassim**, Administrative Assistant from the International House resigned and left the Centre on 10 April 2019.





# **RECSAM Facilities & Accommodation**

The Southeast Asian Ministers of Education Organization - Regional Centre for Education in Science and Mathematics (SEAMEO RECSAM) is an inter-governmental organisation established in Penang in 1967. The International House which is conveniently located at the heart of the Regional Centre for Education in Science and Mathematics (RECSAM) offers affordable accommodation and state-of-the-art facilities powered by cutting-edge facilities. The International House has 152 furnished rooms and suites which are elegantly designed keeping in mind the astute taste of our guests. RECSAM's fully-equipped event facilities are also suitable for seminars, trainings, workshops, meetings and other functions.



## Editorial Board

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