



WORKSHOP ON 'EXTRACTION OF BANANA DNA & CREATING DNA-MODEL'

Date: 9 September 2020

Facilitator: Yuji Otsuka

Mode: Online

Organiser: SEAMEO RECSAM, Penang

Rationale

Science plays very important role in our daily life and society. With this regards, the need for science education is increasing rapidly in this new era. Practical distinctive teaching methods and approaches should be suggested for students in order to capture students' engagement in classes. As one of the approaches, hands-on activities and experiments using daily materials in science lesson could be much more effective and meaningful. Through these approaches, students may feel much easier to grasp science concepts and science process skills. At the same time, if these student-centered approaches could be suggested for students under the on-line learning applied new skills of Information and Communications Technology (ICT), it might be more effective and more attractive to students. These on-line learning approaches is not only the method fighting against COVID-19 but also could be very useful our new teaching methods.

This workshop will introduce hands-on activities to participants via on-line learning. Each activity uses very common and affordable daily items to help students understand basic and important science concepts easily. DNA is chosen as the focus topic due to the current and critical issues of COVID-19 in which the virus are duplicated and reproduced in human body that can be similarly explained based on the theory of DNA or RNA. This workshop is expected to provide the basic information of gene and through this workshop, participants will not only be able to obtain practical science teaching skills and knowledge, but also acquire the skills of ICT.

Objectives

At the end of the workshop, participants will be able to:

- acquire the knowledge and skills of extracting DNA through experiments.
- acquire the skills of creating DNA-model used paper.
- become familiar with the skills of ICT through on-line learning.

Workshop Facilitator

Yuji Otsuka is serving as a specialist in SEAMEO RECSAM, Penang since 2019. Prior to his appointment in SEAMEO RECSAM, he served as a Senior Volunteer of Japan International Cooperation Agency (JICA) at the Training Programme Division in SEAMEO RECSAM from 2016 to 2018, conducting several practical science courses and workshops. He was a science teacher in Japan for 30 years and he had also served as JICA Senior Volunteer on Science and Mathematics Education in the Independent State of Papua New Guinea. He was engaged in Super Science High School (SSH) project organised by the Ministry of Education, Culture, Sports, Science and Technology (MEXT), Japan as a project promotion chief.

He had also conducted "Research on Teaching Methods for Encouraging Motivation to Learn Science" at Graduate School of International Development and Cooperation, Hiroshima University, Japan. He had been involved in JICA Long-Term Expert on Science Education (project for Improving Science and Mathematics Education in Elementary and Junior High Schools in Ghana) in the Republic of Ghana. He had been also engaged in preparatory education on physics for Malaysian students preparing to study in Japan at Malaya University in Malaysia under the long-term teacher dispatch project organised by MEXT, Japan.