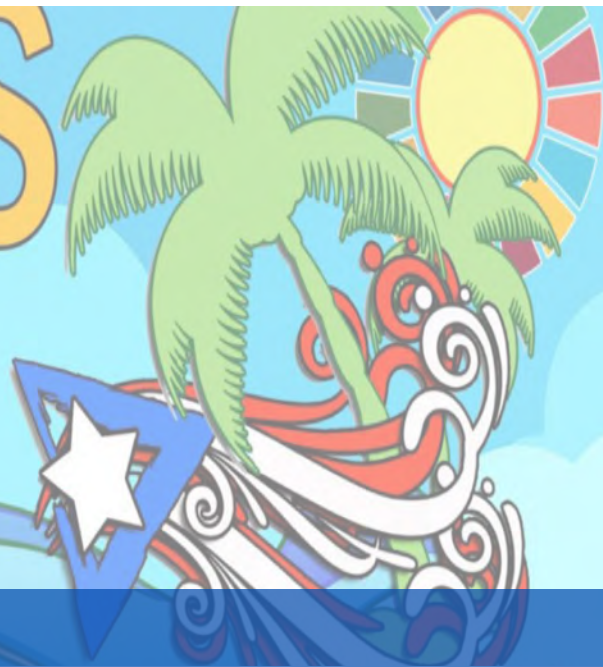


# SERMACS

## 2022



### **EDUCATING FOR SUSTAINABILITY SYMPO FOR K-12 TEACHERS AND STUDENTS**

**GENERAL DESCRIPTION:** In 2015, the United Nations approved an agenda with 17 goals and 169 targets for Sustainable Development.

This agenda is a plan of action in favor of people, the planet, and prosperity. Understanding the need to empower vulnerable populations,

this symposium addresses the need to include the discussion of sustainable development and the incorporation of the goals developed

by the United Nations in classrooms. Topics related to sustainable development will be discussed, and teachers will have the opportunity

to present their experiences and strategies for introducing the topic in their STEM courses. There will also be an opportunity for students

to showcase their knowledge and interests in the topic. Attendees can ask questions and interact with a panel of scientific experts who

address and work with sustainable development issues in Puerto Rico. To encourage participation and outreach, the teacher with the most

innovative teaching strategies and the students who present the most complete and innovative proposals for solutions to sustainable

development goals will be awarded prizes. The best presentations will be invited to submit a paper or activity to be published in a book

related to sustainable education practices in chemistry.



## PROGRAM OF ACTIVITIES

**8:00am a 11:30am -Chemistry Festival**

**8:00 am - 3:00pm Exhibit: Latin Women in Science and their contributions to ODS.** In this exhibit the public will know about over 50 different latin female scientists and how their research contribute to the sustainable development.

**8:30am- 9:30am Discussion Panel: Sustainable Development:** Experts in sustainable development that lead different projects and member of P.R Sustainable Development Committee will share the local and global challenges they face in their agenda to attain the sustainable development goals (ODS)

**10:00am-10:25am Coffee Break/ Visit Chemistry Festival Activities**

**10:30am -12:00 pm Concurrent workshops for teachers**

- **Free Tools to Integrate into Labs and Research Process in a Classroom.** Dr. Yajaira Torres, Society for Science Expansion Lead Advocate Description: This workshop will introduce participants to different free tools and apps that facilitate the data collection, documentation and analysis during laboratory and research activities. Capacity : 25 participants.

- **Arduino for sustainable Development**

Dr. Liz Diaz and Mr. Carlos Malca

Capacity : 20 teachers

Description: Arduino is an 'Open-Source Embedded Development Board'- uses sensors, actuators and an integrated development environment for developing different types of projects. The workshop will help teachers learn the principles associated with Arduino hardware and software. Training emphasis is given to applied knowledge of the principles by exposing the teachers to working projects. Examples of how to integrate the technology in students' projects will be presented.

**D2:30pm - 4:00 pm STEAM Education for Sustainability -** Presentation of teacher's projects and activities - From the classroom: STEAM teaching strategies to introduce the principles of sustainable development in the classroom. (10 minute presentations)

**2:30pm -4:00pm Concurrent workshops for teachers and students**

- **Monitoring Water Quality**

Coordinator: Center for the Innovation Research and Education in Environmental Nanotechnology  
Description: Participants will be introduced to water quality methodologies and challenges. Different opportunities to collaborate with nonprofit organizations and activities to introduce this important topic in STEM courses will be presented.  
Capacity : 20 participants ( teachers or students)

- **How to teach chemistry in a fun way when you don't have a lot of resources?**

Dr. Kariluz Davila, Dr.Liz Diaz, Dr. Lorell Munoz, Prof. Uriel Rivera Description: Participants will be presented with different alternatives to introduce chemistry concepts with fun demonstrations using household materials and free digital tools including simulators and smartphone apps.  
Capacity 20 teachers participants:

**4:00pm- 5:00pm- Sustainability Innovation Challenge:** The videos submitted by high school students to the contest will be presented and the winners will be announced.