TEP Teacher Enrichment Program

Excellence
Center for Excellence in Education

STEM Lyceums

APRIL 2022 NEWSLETTER

Keep America Beautiful Month

National Robotics Week is 4/2 to 4/10
Earth Day is 4/22
National DNA Day is 4/25

Upcoming Events

Register for all events of interest!

TEP

Health Science Highway: Pharmaceutical Sciences
Thursday, April 7, 2022
5:00 – 6:15 PM (ET)

Where the Living & Artificial Meet
Tuesday, April 12, 2022
6:00 – 7:00 PM (ET)

Virtual Bite of Science
Thursday, April 21, 2022
5:00 PM – 6:15 PM (ET)

The Rhythm of Life: Genomic Regulation of the Circadian Rhythm
Monday, April 25, 2022
6:00 – 7:00 PM (ET)

STEM Lyceums

STEM Lyceums: Clean & Renewable Energy
Wednesday, April 20, 2022
5:00 – 6:00 PM (ET)

Paula Sanjines, P.E.
Senior Wastewater Treatment Technologist at Jacobs

Jeffery Sampson
Construction Project Manager – Renewable Energy Group at Dominion Energy

STEM News

Science

Cheaper, more efficient ways to capture carbon

Researchers have developed a new tool that could lead to more efficient and cheaper technologies for capturing heat-trapping gases from the atmosphere and converting them into beneficial substances, like fuel or building materials.

Technology

These flying robots protect endangered wildlife

Around the world, people who work to better understand and protect wildlife are using drones to help the cause. Drones are being used to collect mucus from whales, snap photos of rare monkeys, count penguins, and more!

Engineering

New enzyme discovery is another leap towards beating plastic waste

Scientists have engineered an enzyme that has the remarkable capacity to help break down terephthalate (TPA), one of the chemical building blocks of polyethylene terephthalate (PET) plastic, which is used to make single-use drinks bottles, clothing and carpets.

Math

Chaos theory provides hints for controlling the weather

Researchers have used computer simulations to show that making small adjustments to certain variables in the weather system could potentially modify weather phenomena such as sudden downpours.

A Lesson to Learn

- Celebrate Earth Day
- Earth Day Activities
- Celebrate National Robotics Week
- Autonomous Vehicles Seminar Series

Partner Opportunities

Illumina
Get ready for DNA Day on April 25, 2022! Teachers can register to match their classroom with an Illumina STEM professional to learn about their career (this professional could be either a scientist or non-scientist).

American Society of Human Genetics
DNA Day Essay Contest is open to students in grades 9 – 12 worldwide and asks students to examine, question, and reflect on important concepts in genetics.

You're Invited

CEE's Congressional Luncheon
Each year, the Center hosts a Congressional Luncheon to unite several hundred STEM leaders from public and private sectors, friends of CEE, and program alumni around outstanding achievement in STEM. On Thursday, April 28th from 12:00 – 2:00 PM (ET) via Zoom, the event will feature comments from CEE Honorary Trustees: Senator Jacky Rose, Senator Todd Young, Representative Neal Dunn, and Representative Scott Peters. Additionally, Senator Joe Manchin will provide remarks. RSVP HERE.

CEE New Staff

Join us in welcoming Travis Williams, our new Teacher Enrichment Program (TEP) Manager!

STEM Spotlight
Syukuro Manabe

Syukuro "Suki" Manabe was born September 21, 1931 in Shinritsu Village, Uma District, Ehime Prefecture, Japan. Manabe received a Bachelors degree, Masters degree, and a Ph.D. in Meteorology from the University of Tokyo. After earning a Ph.D. in 1958, he became a research meteorologist at the U.S. Weather Bureau (later the National Weather Service), where he explored the use of physics in developing weather models. Manabe then worked at the General Circulation Research Section of the U.S. Weather Bureau, now the Geophysical Fluid Dynamics Laboratory of NOAA, until 1997. From 1997 to 2001, he worked at the Frontier Research System for Global Change in Japan serving as Director of the Global Warming Research Division. In 2002, he returned to the United States as a visiting research collaborator at the Program in Atmospheric and Oceanic Science, Princeton University. Manabe currently serves as senior meteorologist at the university.

In 1967, Manabe developed the world's first credible three-dimensional climate model of the atmosphere. Two years later he and American oceanographer Kirk Bryan produced the first general circulation model that coupled the ocean and atmosphere. Values of several environmental variables (such as temperature, salinity, density, and the growth and retreat of pack ice) were calculated for grid points spaced 500 km (about 310 miles) apart at nine different levels in the atmosphere over a 60-year model run. The model became a useful tool for examining seasonal climate variability and global warming scenarios, especially to gauge the climate's sensitivity to carbon dioxide concentrations.

Manabe is the recipient of the Blue Planet Prize (1992), the American Geophysical Union's Roger Revelle Medal (1993), and the Crafoord Prize (2018), awarded by the Royal Swedish Academy of Sciences. Manabe also authored the book Beyond Global Warming (2020) with American atmospheric scientist Anthony Broccoli. In 2021, he was awarded the Nobel Prize for Physics in for the foundational progress he and German oceanographer Klaus Hasselmann made in modeling Earth's climate, quantifying variability, and predicting global warming. Manabe and Hasselmann shared the prize with Italian physicist Giorgio Parisi.