



St. Petersburg Science Festival
School Day 2021

Event Program

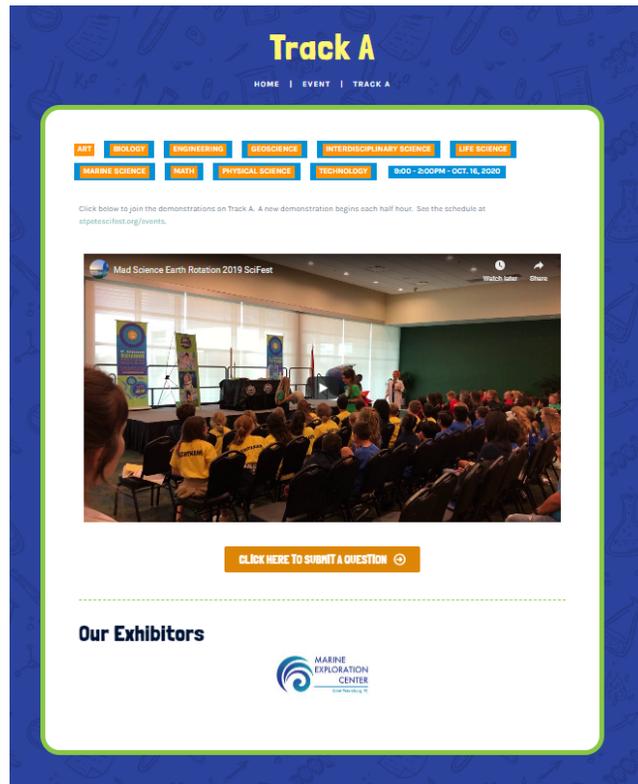
Welcome! Thank you so much for joining us in our second virtual science festival. Many people have been working constantly to make this event what it is this year. We had a great experience last year for our first year but I think we will top it this year! We have an exciting lineup of speakers for you to choose from.

You will access the festival by going to the main page for the St. Petersburg Science Festival: <https://stpetescifest.org/> .

You will then click on the 2021 Interactive Festival tab. There you will find the schedule of live demos after you scroll down a little bit. Notice that the image below is not the final list (which will be uploaded later) but this is what you can expect to see.



On Friday, you will be able to click on the presentation you want to watch at the given time. That will bring up a new screen that looks (this image is a draft and it may change) like the following:



You will watch the video directly through this website. Please note that you will have the ability to submit a question directly from our website as well. You will see the submit button directly below the video. That question will get submitted to our team which will then be relayed to our MC for that session who will filter through all of the questions being asked and select questions for the end of the session. We will try to answer as many questions as possible but last year we had over 4000 participants!

The current setup will allow you to view the speakers, but the speakers will not be able to view you or your students! Nor will you get any pesky ads on the side of the video.

Program

Time	Track A LIVE	Track B LIVE
9:00	Mote Marine Laboratory and Aquarium	St. Petersburg Library System
9:30	Clearwater Marine Aquarium	USF - Marine Science
10:00	EdLab	USF - Geosciences
10:30	Eckerd College	Dr. Tracy Fanara
11:00	Dali	NOAA/CIMAS
11:30	NASA	Healthy St. Pete
12:00	GCOOS	USGS
12:30	Pinellas County Utilities	Birdbrain Technologies
1:00	Spectrum Bay News 9	FIO
1:30	Mad Science	Sea Us Rise
2:00	SPC Innovation Lab	

Note that there will be a Track C (which is online) which contains various pre-recorded videos and content that you can also choose from to watch in your class if you prefer or if we have technical difficulties with any of the live presentations! These videos are available at any time. Or, you can watch any of last years Science Festival:

<https://stpetescifest.org/kids/>

Session Descriptions

***** Denotes additional materials at the link provided for their session**

Track A	9 am	Mote Marine Laboratory
Shark Zone Virtual Tour By Jason Robertshaw & Shannon Powers		
<p>Using our portable distance learning studio, we take you directly to the animals, exhibits and habitats around Mote Marine Laboratory and Aquarium. This tour is focused on shark research and care at Mote Aquarium. We begin with a review of the history of shark research at the lab. Then we watch a demonstration of shark husbandry and training with our biologists from atop our 135,000 gallon exhibit. We end with a Question and Answer session with our Ocean Experts. Participants will watch a live shark training and feeding session; learn about the history of shark research and technologies used at our lab; identify reasons for training sharks and other animals in human care; develop an appreciation for sharks and their important ecological roles; compare up to three stewardship actions they can take to help shark conservation.</p> <p>Everything related to this lesson is available for free on Mote's Flipgrid Discovery Library: https://admin.flipgrid.com/discovery/partners/81</p> <p>For more information contact: seatrek@mote.org ; (941) 388-2904</p> <p>*** Please see the resources at the link below for this presentation: https://drive.google.com/drive/folders/1ZF9-2z5wIRVpahqWTznsFyzudlSEBiHM?usp=sharing</p>		

Track B	9 am	St. Petersburg Library System
Junk Food Science By Mandy Morris Carrie & Elizabeth		
<p>Potato Chips – can't eat just one?</p> <p>Potato chips are greasy, but how greasy are they really? We'll be investigating how much fat is in a potato chip serving. We'll compare some of your favorite chips using the scientific method! Get ready for some good, greasy, science fun.</p> <p>For more information contact: spark@stpete.org</p>		

Track A	9:30 am	Clearwater Marine Aquarium
Marvelous Manatees By Caitlin Smith & Avery Coble		
<p>Learn about the Florida manatee and Clearwater Marine Aquarium's work as a marine life rescue hospital to aid these threatened animals. Explore the basic anatomy of manatees and understand why this knowledge is important to rescue biologists.</p> <p>Additional Resources available at: https://cmamarineacademy.thinkific.com/courses/st-pete-science-fest-marvelous-manatees</p>		

Track B	9:30 am	USF College of Marine Science
Virus Hunters By Makenzie Kerr & Natalie Sawaya		
<p>Join us to explore the world of viruses! All living things can become infected with viruses, including humans, animals, plants, and even bacteria. We are sure you have heard of coronaviruses, but did you know not all viruses cause bad disease and some can even help people? Become a virus hunter, using an interactive website and worksheet to explore Tampa Bay's unique ecosystem and find out what viruses infect organisms in our area.</p> <p>For more information contact Mackenzie: burrowsm@usf.edu</p> <p>*** Please see the resources at the link below for this presentation: https://drive.google.com/drive/folders/1z1G4I-ZSzbzynn0ObNDsEdA39_i-2U1u?usp=sharing</p>		

Track A	10 am	EDLab at Pure Air Control Services
Evidence based approach to Air Purification units (APU's) By Dr. Rajiv Sahay		
<p>Maintaining a good air quality is challenging, especially in recent times due to issues related with chemical, biological, and radiological contaminants. Poor air quality in and around any building leads not only to loss of the productivity, but also creates health and hygiene related issues. Particularly, in the ongoing COVID-19 pandemic, air purification/cleaning technology has become increasingly popular for indoor air quality management. Technological advancements in air purification and contaminant/pollutant removal techniques will be discussed during this presentation. Information on how to select an appropriate technology for air quality control will also be illustrated.</p> <p>For more information contact: Dr. Rajiv Sahay, Chief Science Officer, EDLab at Pure Air. Email: rsahay@pureaircontroils.com</p>		

Track B	10 am	USF - Geosciences
Karst, what lies beneath our feet. By Dr. Van Beynen & Anna Davis, Stanley Kordecki, Ashlynn Stuart, Olivia Bennett, Chuang Yin		
<p>Karst is an environment that few have heard of, yet it underlies all of Florida. It provides much of our drinking water and irrigation that is essential to Florida's agriculture. In our region, this distinct landscape is characterized by caves, sinkholes and underground aquifers. This presentation will illustrate Florida's karst and our interaction with this fragile landscape. Also, you will get a virtual tour of a cave showing the features found in caves from around the world including wildlife (whip scorpions, glowworms, etc.), stalactites/stalagmites, cave art and human impact.</p> <p>For more information contact: vanbeyne@usf.edu</p>		

Track A	10:30 am	Eckerd College
Draw Like Escher! By Bjoern Muetzel		
<p>The Dutch artist M.C. Escher is one of the pioneers of mathematical art. His work features impossible objects, explorations of infinity, fascinating geometries, and tessellations. He drew great inspiration from nature, making studies of insects, landscapes, and plants all of which he used in his artworks. In this presentation you can learn about beautiful tilings in the plane and how to draw a tessellation like the famous artist.</p> <p>For more information contact: muetzeb@eckerd.edu ; https://natsci.eckerd.edu/~muetzeb@campus/</p> <p>*** Please see the resources at the link below for this presentation: https://drive.google.com/drive/folders/14hnpqVLVi5QSYcqSzDSEM0kwr99L0II4?usp=sharing</p>		

Track B	10:30 am	Dr. Tracy Fanara
Florida Red Tide; protecting coastal communities By Dr. Tracy Fanara		
<p>Neurotoxins from <i>Karenia brevis</i> blooms threaten aquatic and human health. When toxic aerosols are present, respiratory irritation, or respiratory illness in people with chronic respiratory disease, can ensue, resulting in negative beach experiences. Informing the public of beach conditions is an effective strategy to protect beachgoers by encouraging visits to beaches not experiencing effects. Three modern approaches to information dissemination and data collection were developed. Community science programs can help enhance scientific literacy of the public, assist in data collection and in turn, help protect public health during a bloom. However, what tools can be used to understand these blooms to prevent prolonged duration or increased intensity of blooms? After 70 years of biologic research, there are still many questions to be answered about these blooms; many because this “local” phenomenon is not able to be understood locally through monitoring and lab studies alone. These blooms are part of a much bigger system: possibly influenced by hurricanes, Saharan dust, ocean currents, some even hypothesize that perhaps 40% of the US plays a role and new research suggests the possibility of sinkholes 50 miles of the coast of Florida, assisting in bloom initiation. Everything is connected through earth systems and modeling can help us understand these phenomena.</p> <p>For more information contact: tracy.fanara@noaa.gov or inspectorplanetteam@gmail.com</p>		

Track A	11 am	Dali
Dali and Science By Joy Garrett-Douglas		
<p>Through a short presentation, Dalí Museum Educator, Joy Garrett-Douglas explores a brief history of Salvador Dalí's fascination with science. She will discuss the scientific theories and inventions that inspired Dalí to create the world-famous painting <i>The Persistence of Memory</i>, 1931. The presentation will conclude with a demonstration of the “Liquid Layered Column”, a chemistry experiment and a fine art sculpture all in one.</p> <p>*** Please see the resources at the link below for this presentation: https://drive.google.com/drive/folders/1ETL5EBy-ScqRoMVfncRFhIWsvVF4PgutS?usp=sharing</p>		

Track B	11 am	NOAA/CIMAS
Sawfish and Shark Science By Dr. Andrea Kroetz		
<p>Students will learn about species diversity of sharks and rays, cool facts that make these fishes unique, and how scientists are researching them. Participants will also learn about the endangered smalltooth sawfish, how scientists are working to conserve the species, and how you can help!</p> <p>For more information contact: andrea.kroetz@noaa.gov</p> <p>*** Please see the resources at the link below for this presentation: https://drive.google.com/drive/folders/1ivYiqhmuZ_XEsiA9BsUccSkCvsKb8KjJ?usp=sharing</p>		

Track A	11:30 am	NASA
Space Communications and Navigation (SCaN) at NASA Glenn Research Center By Lindsay Hill & Molly Kearns		
<p>The Space Communications and Navigation (SCaN) Program at NASA Glenn Research Center will discuss topics such as the International Space Station, astronaut routines, the Apollo and Artemis missions, space communications, radio waves and more.</p> <p>Additional resources available at: SCaN Student Zone: https://www.nasa.gov/directorates/heo/scan/communications/outreach/students/txt_kidszone.html</p> <p>For more information contact: SCaN website: https://www.nasa.gov/directorates/heo/scan/index.html and lindsey hill lindsay.a.hill@nasa.gov</p>		

Track B	11:30 am	Healthy St. Pete
Healthy and Happy Human Body By Christie Bruner		
<p>Learn all about how to keep your body and brain happy and healthy in this fun and engaging presentation. Christie will cover topics such as reading nutrition labels and the importance of being active every day in an interactive format. This presentation includes pertinent information for students in grades K-5 and will encourage participants to utilize the healthy living tips in the future and share the information with family and loved ones.</p> <p>For more information contact: Christie Bruner, Community Engagement Supervisor – Healthy St. Pete, City of St. Petersburg – christie.bruner@stpete.org</p>		

Track A	12 pm	Gulf of Mexico Coastal Ocean Observing System
Decoding Maritime Signals By Dr. Chris Simoniello, Grant Craig & Abbey Wakely		
<p>Participants in the Decoding Maritime Signals session will: 1) Learn about the technology being used by the U.S. Integrated Ocean Observing System to understand oceanic and atmospheric conditions that affect ecosystems, people and the economy; and 2) Participate in an art-themed activity to learn about the International Code of Signals.</p> <p>For more information contact: chris.simoniello@gcoos.org</p> <p>*** Please see the resources at the link below for this presentation: https://drive.google.com/drive/folders/1f-XHrgxQCchA-5mGUwyLnDkCcMVHbPm?usp=sharing</p>		

Track B	12 pm	USGS St. Petersburg Coastal and Marine Science Center
How does water change the beach during storms? By Meg Palmsten and Michael Itzkin		
<p>Our beaches are shaped and changed by water, waves, and wind. Learn how we study and predict storm impacts on beaches!</p> <p>Activity website: https://www.marine.usf.edu/genomics/virus-hunters/</p> <p>For more information contact: memory@usgs.gov</p>		

Track A	12:30 pm	Pinellas County Utilities
'Is it Sewer Safe?' A Play-along gameshow! By Shea Donifon		
<p>Have you ever wondered where the used water (called wastewater) that goes down sinks, showers, and even toilets goes after it travels through the sewer? And why does it matter what you flush? South Cross education will address these questions and together, we'll play a game that requires only a thumbs up or a thumbs down called, "Is it sewer safe?" You will not only learn where wastewater goes after it enters the sewer but what items are actually flushable may surprise you!</p> <p>For more information contact: South Cross Bayou Education program 7401 54th Ave N; St Petersburg, FL 33709 SCBTOURS@pinellascounty.org</p> <p>*** Please see the resources at the link below for this presentation: https://drive.google.com/drive/folders/1SErpsGqfKcaUDxCCuPLZVQ3hB0XJdzEY?usp=sharing</p>		

Track B	12:30 pm	Birdbrain Technologies
Finch 2 Remote Robots Playground By Tom Lauwers		
<p>In this session we feature the new Finch Robot 2.0 in a highly-interactive playground where participants can live program them in real-time, using Remote Robot technology. Learn about coding and robotics by programming real robots, located in Pittsburgh, from anywhere on Earth. No coding experience is required to join!</p> <p>For more information contact: tom@birdbraintechnologies.com</p> <p>Day of, please go to day of direct to https://www.birdbraintechnologies.com/remote-robots/finch-playground/ They can also learn more about remote robots generally, and play with some remote robots that are up 24/7, at https://www.birdbraintechnologies.com/remote-robots/</p>		

Track A	1 pm	Spectrum Bay News 9
Cold Fronts and Thunderstorms By Meteorologist Nick Merianos		
<p>Cold fronts affect Florida several times a year and are notoriously known for its bad weather such as thunderstorms, tornadoes and heavy rain. A cold front is the leading edge of a colder air mass that is moving south. These fronts can produce tornadoes over Florida during the winter. Winter time tornadoes tend to be stronger than summertime tornadoes. There is a fundamental reason why severe weather is associated with cold fronts and this has to do with air densities. Cold air is denser than warm air. That means cold air hovers near the ground and warm air rises. The warm air is forced to rise because it is less dense than the cold air. This causes a surge of rising motion which is known to generate thunderstorms. Sometimes, these storms can be nasty! Let's demonstrate how cold fronts work in this fun at home demonstration.</p> <p>To schedule a Spectrum Bay News 9 Meteorologist to come to your school or for more information on Project Weather, please contact Deirdre Treacy, Senior Marketing Manager. Deirdre.Treacy@charter.com</p>		

Track B	1 pm	Florida Institute of Oceanography
Florida Institute of Oceanography Research Vessel Tour By Robert Walker		
<p>This presentation is a tour of the Research Vessel RV Weatherbird II. I will conduct a pre-recorded walkthrough tour of the vessel (approx. 20 minutes) and expand on what type of research and educational programs are supported by the Florida Institute of Oceanography. Also included in the tour will be a description of how the different types of oceanographic equipment is used and deployed by the vessel to provide scientists the data needed for their research. A live question and answer period will be included at the conclusion of the tour.</p> <p>For more information contact: robwalker@usf.edu</p>		

Track A	1:30 pm	Mad Science
A Day in the Life of a Mad Scientist By Jeff Meister		
<p>Have you ever wondered what a Mad Scientist does everyday for a living? I love it when people ask me what I do and I reply that "I am a MAD SCIENTIST" - They say what? and I say "really!" Being a mad Scientist is the most FUN ever..... Even more fun than when I was a real scientist - A Marine Geophysicist which was a blast. In this presentation you will see how as Mad Scientists we get to experiment with ordinary stuff - all around us, all the time and make it FUN! - Why? - To show you how much fun all science can be and how it can help us to understand more about the world around us everyday.</p> <p>For more information contact: madsciencegreatertampabay@gmail.com</p>		

Track B	1:30 pm	Sea Us Rise
Sea Us Rise: Creating a Global Playlist to Inspire Climate Action By Jo Ellen Schilke, Michael Kingford, Paula Cooper, Dane Myers, Charity Stow, Holly Thorpe		
<p>Sea Us Rise is a non-profit, founded in St. Petersburg, and now operating here and in the UK. We want to promote and support artists that are making music for climate change. We want to inspire people to take action to save the planet, and believe that artists usually lead the way. Our community of artists on the Sea Us Rise website are scattered across the USA, Europe and Asia and represent a mix of amateur, semi-professional and professional musicians. They are joined together through original compositions with a climate change theme and a profound concern for the world's future. It is completely free to join our movement and we can help promote your music through our social media channels. We'd love to find the get-of-the-couch song that inspires not just a nation but the whole world to take action.</p> <p>Please write Info@SeaUsRise.org or find us on Twitter @Sea_Us_Rise or Instagram @Sea Us Rise</p>		

Track A	2:00 pm	SPC Innovation Lab
Enhancing Learning in Virtual Reality By Chad Mairn		
<p>Virtual Reality (VR), a 3D simulated computer environment, is becoming more popular for entertainment, social interaction, and education. VR is starting to complement traditional education practices by immersing users into a space that is reflective of their physical world where students can now make the invisible visible, touch the untouchable, safely experience dangerous places, and much more. This workshop will also offer a demo of Spatial, a free VR platform that enables classes to collaborate and learn in a virtual 3D space.</p> <p>Please contact Chad Mairn for additional information mairn.chad@spcollege.edu ***Please see the resources at the link below for this presentation: https://drive.google.com/drive/folders/1z_1hD3-3-6wP20vKn9Xxk6lkHqU9vuFP?usp=sharing</p>		