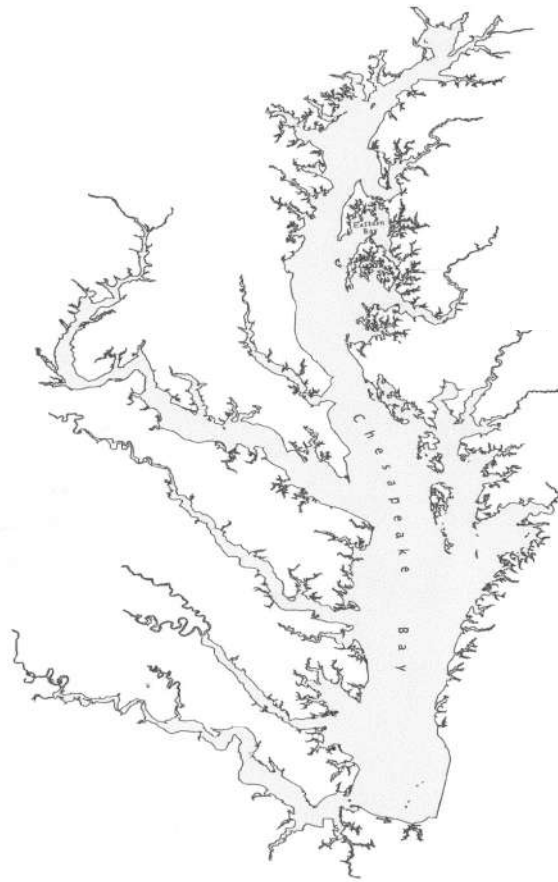


**Chesapeake Bay
Governor's School**
for Marine & Environmental Science

**19th Annual
Science Symposium**



**Virtual Presentations
Saturday, March 5, 2022
8:00 am – 11:55 am**

Program Schedule

8:00

Judges' Meeting
[Chester Room](#)

8:15

Orientation to Virtual Symposium for Attendees

8:30-11:55

Student Presentations

- James Room
- York Room
- Rappahannock Room
- Potomac Room
- Susquehanna Room
- Wicomico Room
- Nanticoke Room
- Choptank Room
- Chester Room
- Piankatank Room

A separate CBGS Awards Ceremony will be held during CBGS classes the following week to recognize exemplary presentations

Bowling Green Campus Students

Caroline

Jayda Anderson	James Room	9:00
Brianna Cooksey	Nanticoke Room	10:50
Arika Gray	Wicomico Room	11:40
Caleb Greene	Potomac Room	8:35
Sean Kenny	Choptank Room	8:35
Kayla Klontzaris	York Room	9:25
Aleksandra Witkowski	Rappahannock Room	9:50

King George

Andrew Grossen	Rappahannock Room	11:40
Marie Han	Piankatank Room	9:25
Kiersten Hannah	Chester Room	9:50
Ella Indseth	James Room	10:50
Kendra Kraisser	Potomac Room	10:25
Kyle Reviello	York Room	11:15

King William

Gabby Carter	Choptank Room	11:15
Jonah Ibanez	Piankatank Room	10:25
Gracie Madren	Wicomico Room	9:25
Amaya Thacker	Susquehanna Room	9:00

Glenns Campus Students

Gloucester

Daniella Asnicar	Nanticoke Room	9:00
Brenna Hendrix	Choptank Room	10:25
Madelyn Tyler	Susquehanna Room	10:25

King and Queen

Megan Prince	Rappahannock Room	9:00
Hunter Smith	York Room	8:35

Mathews

Carson Brown	Piankatank Room	8:35
Brandon Gandee	Choptank Room	9:25
William Hospodar	Potomac Room	9:25
Joice Small	Susquehanna Room	11:15
Dylan White	Wicomico Room	10:50

Middlesex

Allison Blake	Piankatank Room	9:50
Kaydence Congleton	Rappahannock Room	10:50
Madysen Davis	Potomac Room	11:15
Wyatt Evans	James Room	9:50
Ashtyn Franklin	Chester Room	11:40
Autumn Satterly	Chester Room	9:00
Aniyah Thompson	Chester Room	10:50

New Kent

You Gao	York Room	10:25
Hadessah Johnson	Wicomico Room	8:35
Aaron Sweeney	Nanticoke Room	9:50

Warsaw Campus Students

Colonial Beach

Cassie Kincaid	York Room	11:40
Steven Lilly	Piankatank Room	9:00

Essex

Emaline Basye	James Room	8:35
McKenna Condrey	Rappahannock Room	10:25
Arianna Fortune	Potomac Room	9:50
Cole Gladden	Chester Room	9:25
Matthew Herring	Nanticoke Room	9:25
Payton Jones	Choptank Room	9:00
Madison Nelson	Chester Room	11:15
Chase Smith	Choptank Room	9:50
R.J. Speidel	Chester Room	9:25
Jake Yocum	Piankatank Room	11:40

Lancaster

Kylie Ewell	York Room	9:50
Michael Foulkes	Potomac Room	11:40
Carter McGee	Susquehanna Room	9:25
Ainsley Mumford	York Room	9:50
Shelby Rose	Wicomico Room	9:00
Olivia Saunders	James Room	10:25
Hailey Smith	Wicomico Room	9:00

Northumberland

Jayven Bea	York Room	10:50
Grant Biddlecomb	Nanticoke Room	11:15
Lane Eubank	Nanticoke Room	8:35
Malik Hickman	James Room	11:15
Jessica Lee	Nanticoke Room	8:35
Teagan Mullins	Rappahannock Room	11:15
Channing Reynolds	Rappahannock Room	8:35
Hallie Shackelford	James Room	11:40
Tom Neale	Rappahannock Room	9:25

Richmond

Alyssa Boisseau	Wicomico Room	11:15
Mackenzie Cauthorn	Wicomico Room	9:50
William Conley	Susquehanna Room	11:40
G'Avoni Croxton	Susquehanna Room	10:50
Lewis Ginn	Chester Room	9:25
Aiden Lewis	Wicomico Room	10:25
Emma Packett	Piankatank Room	10:50
Hunter Self	Nanticoke Room	10:25
Bladen Williams	Chester Room	10:25

Westmoreland

Conner Benson	Choptank Room	11:40
Gabrielle Brown	York Room	9:00
Angela Clayton	Chester Room	8:35
Hayley Hirschberg	Potomac Room	10:50
Dillon Miner	Choptank Room	10:50
Mariajose Ocegüera-Andrade	Susquehanna Room	8:35
Justin Sumiel	James Room	9:25

8:35 - 8:50		
Emaline Basye	Reading vs. Video vs. Interaction: What is the Most Effective Way to Learn?	James Room
Hunter Smith	Correlation of Solar Cycles and Earth's Temperature Since the Industrial Revolution	York Room
Channing Reynolds	Tesla, Hybrids, and Gas Vehicles: What's in our Future for Transportation?	Rappahannock Room
Caleb Greene	Crunch! The Effect of Material and Density on 3D Printed Structures for Hand Protection	Potomac Room
Mariajose Ocegüera-Andrade	The Effectiveness of Vermicompost vs. Synthetic Fertilizer on Plant Growth	Susquehanna Room
Hadessah Johnson	Compound Screening for Molecular Regulators of ZFP189 Using Luciferase Assay and qPCR	Wicomico Room
Lane Eubank and Jessica Lee	Various Handwashing Techniques and Their Efficiency in Eliminating Micro-bacteria Prevalent in the Human Microbiota	Nanticoke Room
Sean Kenny	The Effects of Urban Development and Riparian Buffers on an Urban Stream	Choptank Room
Angela Clayton	Securing Hydroponics: Understanding the Flows of Hydroponic Systems	Chester Room
Carson Brown	Is There a Correlation Between Microplate Seafloor Spreading Rates and Subduction Earthquake Frequency?	Piankatank Room

9:00 - 9:15		
Jayda Anderson	Lending a Hand: The Prevalence of Repetitive Wrist Injuries for Various Work Conditions and Demographic Factors	James Room
Gabrielle Brown	Connecting the Dots: A Look at the Working Short Term Memory of Elementary School Students	York Room
Megan Prince	Characterizing the Plant Communities in Walkerton Marsh, Mattaponi River: Megan's Marsh Adventure	Rappahannock Room
Hallie Shackelford	The Average Species Richness of Living Shorelines Versus Man-Made Shorelines	Potomac Room
Amaya Thacker	Fish and Ships: The Effect of Fishing and Shipping Activity on Blue Shark Distribution	Susquehanna Room
Shelby Rose and Hailey Smith	The Effects of Boat Pollution on Benthic Diversity and Abundance	Wicomico Room
Daniella Asnicar	Observations of Native Pollinator Diversity and Abundance in Different Habitat Types	Nanticoke Room
Payton Jones	Using CO2 as a Proxy to Test Ventilation Rates in the Northern Neck Technical Center Classrooms and the RCC Warsaw Campus	Choptank Room
Autumn Satterly	Does Surface Applied Flea and Tick Pesticide Affect Aquatic Invertebrates?	Chester Room
Steven Lilly	Effluent's Effect on the Environment	Piankatank Room

9:25-9:40		
Justin Sumiel	Synopsis on the Changes and Conditions That Have Occurred in the Chesapeake Bay Over the Last 13 Years	James Room
Kayla Klontzaris	Ya Feel? The Impact of Social-Emotional Instructional Strategies on Science Learning	York Room
Tom Neale	Impacts Grass Carp Have on the Chesapeake Bay and Surrounding Bodies of Water	Rappahannock Room
William Hospodar	An Analysis of Marine Microplastic Debris as a Threat Across the Water Column	Potomac Room
Carter McGee	The Effects of Broadcast Seeding on <i>Secale cereale</i> Growth and Abundance	Susquehanna Room
Gracie Madren	Are Boomers Any Fun? The Likelihood of Risk-Taking in Relation to Age and Gender	Wicomico Room
Matthew Herring	How to Make "Green" Paint: A Comparison of Organic and Chemical Paint	Nanticoke Room
Brandon Gandee	Public Opinion on Carbon Pricing and the Effectiveness of Educational Videos	Choptank Room
Lewis Ginn, Cole Gladden, and R.J. Speidel	The Effects of Environment on Water Quality During the Fall Months	Chester Room
Marie Han	The Effect of Ambiguity on Risk Taking and Risk Aversion	Piankatank Room

9:50-10:05		
Wyatt Evans	The Comparison of Freshwater Pond Ecosystems with Various Levels of Human Influence	James Room
Ainsley Mumford and Kylie Ewell	The Filtration Rate of Oyster Reefs vs. Benthic Oysters	York Room
Aleksandra Witkowski	Just Brew It! Decomposition Rates of Wooden vs. Plastic vs. "Biodegradable Plastic" Coffee Stirrers in Different Sediment Conditions	Rappahannock Room
Arianna Fortune	Edge Effects of Forests	Potomac Room
	FREE	Susquehanna Room
Mackenzie Cauthorn	Does Using the Sidedressing Method Increase the Growth of Corn?	Wicomico Room
Aaron Sweeney	The Effect of Roof Surface Characteristics On Albedo and Temperature	Nanticoke Room
Chase Smith	Nerf or Nothing? A Look at Foam Darts Accuracy and Precision	Choptank Room
Kiersten Hannah	Save the Turtles, Keep the Industry: The Effect of Bycatch Reduction Devices on Blue Crab Catch Rate	Chester Room
Allison Blake	Shifts in Tornado Strength, Frequency and Location in Virginia with Changing Climate	Piankatank Room

10:05-10:20 BREAK		
	No Student Presentations	James Room
	No Student Presentations	York Room
	No Student Presentations	Rappahannock Room
	No Student Presentations	Potomac Room
	No Student Presentations	Susquehanna Room
	No Student Presentations	Wicomico Room
	No Student Presentations	Nanticoke Room
	No Student Presentations	Choptank Room
	No Student Presentations	Chester Room
	No Student Presentations	Piankatank Room

10:25-10:40		
Olivia Saunders	Bacterial Growth on High-Contact Surfaces in a High School	James Room
You Gao	Lunar Seismology Analysis - Do Tides Affect Earthquake Frequency?	York Room
McKenna Condrey	The Mental Health Effects of the Coronavirus Pandemic on High School Students	Rappahannock Room
Kendra Kraisser	Keep Calm and Study On! The Correlation Between Academic Performance / Grade Satisfaction and Student Stress Levels	Potomac Room
Madelyn Tyler	Using Crowdsourcing to Assess the Extent of Coastal Flooding During King Tide Events in the Lower Chesapeake Bay	Susquehanna Room
Aiden Lewis	Filtration Observations of the Eastern Oyster in Different Temperatures	Wicomico Room
Hunter Self	The Success Rate of Buying Double Dips	Nanticoke Room
Brenna Hendrix	The Effect of Oyster Reef Restoration on New Recruitment to Nearby Shoreline Habitat	Choptank Room
Bladen Williams	Living Shorelines, What Do They Really Provide?	Chester Room
Jonah Ibanez	Trash Talk: The Effects of Efficacy-Diminishing and Efficacy-Boosting Commentary on Golf Performance	Piankatank Room

10:50-11:05		
Ella Indseth	Testing the Ocean's Natural Filter: Bioremediation of Fish-Polluted Water by the Macroalga <i>Chaetomorpha linum</i>	James Room
Jayven Bea	What Effects the Deterioration and Longevity of Track Spikes ?	York Room
Kaydence Congleton	Abundance of the Invasive Anemone, <i>Diadumene lineata</i>, on Oysters in the Lower Chesapeake Bay	Rappahannock Room
Hayley Hirschberg	The Occurrence of King Tide Coastal Flooding Since 1998	Potomac Room
G'Avoni Croxton	Are You Protected?: A Study On Mask Effectiveness	Susquehanna Room
Dylan White	Characterization and Comparison of Two Macroalgal Communities in the Lower Chesapeake Bay	Wicomico Room
Brianna Cooksey	Jitters and the Big Sad: The Correlation Between Childhood Trauma and the Development of Anxiety and/or Depression in Adulthood	Nanticoke Room
Dillon Miner	The Effect of the Coefficient of Restitution on Wooden Bat Performance	Choptank Room
Aniyah Thompson	What Successional Stage is the RCC Glenns Forest? The Lorax Project	Chester Room
Emma Packett	Draft Horse Feather Condition: What is the Best Way to Cure Equine Scratches?	Piankatank Room

11:15-11:30		
Malik Hickman	The Effects of Malathion on the Development of Brine Shrimp	James Room
Kyle Reviello	Fossil or Clean: Which One is Green? The Performance of a Turbine Engine Using Fossil Diesel vs. Two Biodiesels	York Room
Teagan Mullins	The Concentration of Microplastics on the Great Wicomico River	Rappahannock Room
Madysen Davis	The Effect of Laundry Products with Strong Fragrances on the Development of Larval <i>Drosophila melanogaster</i>	Potomac Room
Joice Small	Examining Epiphytic Growth on Submerged Aquatic Vegetation	Susquehanna Room
Alyssa Boisseau	Liars, Takes One to Know One: How Lying Affects Lie-Spotting Abilities	Wicomico Room
Grant Biddlecomb	Does Bilingualism Have an Effect on Critical Thinking Ability?	Nanticoke Room
Gabby Carter	VROOM! The Difference in Run-Times between Solar and Gas Powered Lawnmowers	Choptank Room
Madison Nelson	The Effects of Usage on Vending Machine Cleanliness	Chester Room
	FREE	Piankatank Room

11:40-11:55		
Hallie Shackelford	The Average Species Richness of Living Shorelines Versus Man-Made Shorelines	James Room
Cassie Kincaid	Surgical Sutures and the Effect of pH on Their Tensile Strength	York Room
Andrew Gossen	Can 3D Printing Put More Oysters on Your Dinner Plate? A Study of Spat Settlement on 3D Printed Oyster Shells vs. Natural Shells	Rappahannock Room
Michael Foulkes	The Effects of Footwear on Running Form for Short Distance Runs	Potomac Room
William Conley	Does Leaf Litter Have an Effect on the Nitrogen Content in the Soil?	Susquehanna Room
Arika Gray	Get Off Your Phone! The Correlation between Social Media Usage and Adolescents' Happiness, Social Satisfaction, and Social Connectedness	Wicomico Room
	FREE	Nanticoke Room
Conner Benson	A Comparison of the Benthic Index of Biotic Integrity in Popes and Buckner Creek During the Late Fall	Choptank Room
Ashtyn Franklin	Can Benthic Microphytobenthos Improve Water Quality in the Chesapeake Bay?	Chester Room
Jake Yocum	Studying the Growth of Bacteria in Milk after the Sell-by Date	Piankatank Room

Mentors

On behalf of the Chesapeake Bay Governor's School students and staff, we extend our gratitude to the mentors for sharing their expertise and encouragement with our seniors in the preparation and presentation of the research projects. We are looking for mentors for future student research projects. If you know someone who may be interested, please contact CBGS.

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Thank you to our judges

*We would like to extend a special thank you to all the judges.
Our students and teachers appreciate your expert advice in a
variety of scientific disciplines.*

Judges

Dr. Andrew Adrian, *Ph.D. - Genomics, University of Iowa, Data Scientist, NASA Langley Research Center*

Ms. Sara Blachman, *Coastal Systems Ecology and Modeling Program, Virginia Institute of Marine Science*

Ms. Celia Cackowski, *Marine Education Specialist, Virginia Institute of Marine Science,*

Dr. Lin Chen, *Computer Engineer, Langley Air Force Base*

Ms. Rachel Dixon, *Ph.D. Candidate, Virginia Institute of Marine Science, College of William and Mary*

Dr. Ann Evans, *Professor, Thomas Nelson Community College*

Ms. Livia Gong, *Former CBGS Faculty*

Mr. Mark Hall, *CBGS Alumnus, University of Virginia, Mathematics and Science Teacher*

Mr. Grayson Johnson, *Ph.D. Candidate, University of Virginia, CBGS Alumnus*

Mr. Brian Kim, *Ph.D. Candidate, Virginia Institute of Marine Science, College of William and Mary*

Mr. Sean Kinard, *Ph.D. Candidate, Virginia Institute of Marine Science, University of Washington Alumnus*

Ms. Amanpreet Kohli, *Ph.D. Candidate, Virginia Institute of Marine Science, College of William and Mary*

Ms. Erin-Darby McClain, *CBGS Alumnus, College of William and Mary*

Dr. Patrick McGrath, *Marine Scientist, Virginia Institute of Marine Science*

Dr. Charles Rosenbaum, *Retired Clinical Professor of Family Medicine, Medical College of Virginia/Virginia Commonwealth University*

Ms. Annie Schatz, *Ph.D. Candidate, Virginia Institute of Marine Science, College of William and Mary*

Ms. Kristen Sharpe, *Ph.D. Candidate, Virginia Institute of Marine Science, College of William and Mary*

Ms. Abigail Sisti, *Ph.D. Candidate, Virginia Institute of Marine Science, College of William and Mary*

Ms. Bethany Smith, *Marine Education Specialist, Virginia Institute of Marine Science*

Mr. Hugh Sullivan, *Environmental Protection Specialist, USEPA Office of Water, Former Biology Teacher, Prince William County, MS - Virginia Commonwealth University*

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Technical Support

If you experience technical issues and require support during our virtual symposium, you may contact via phone or email:

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