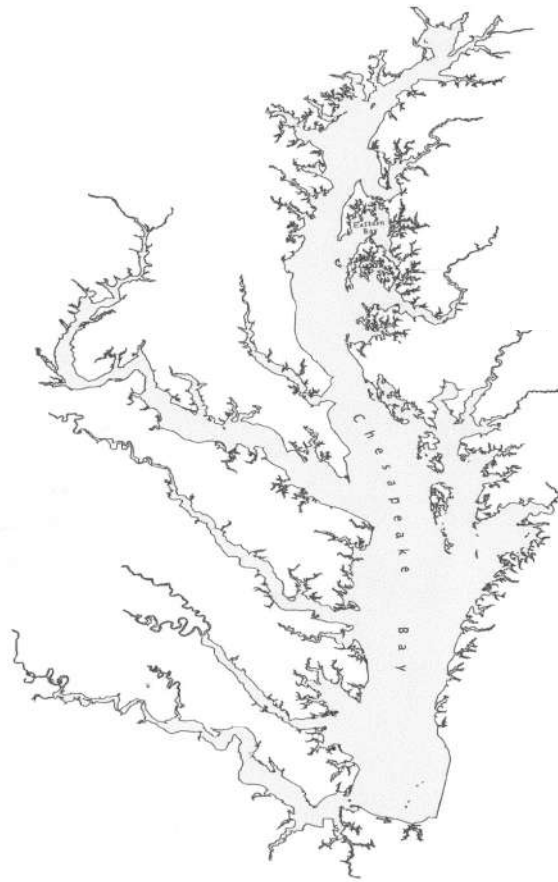


**Chesapeake Bay
Governor's School**
for Marine & Environmental Science

**18th Annual
Science Symposium**



**Virtual Presentations
Saturday, March 6, 2021
8:00 am – 1:00 pm**

Program Schedule

8:00

[Judges' Meeting](#)

8:15

[Orientation to Virtual Symposium for Attendees:](#)
Chesapeake Room

8:30-12:00

Student Presentations

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

12:00-12:30

Lunch Break

12:30

[General Session](#) : Chesapeake Room

Welcome:

Dr. Rachel Ball
Director

Introduction of Speaker:

Dr. Danielle Ross
M&E Teacher - Bowling Green Campus

Keynote:

"Seeing Turtles in a New Light"

Emily Asp, M.S.
NAILD LS I
Lighting Project Specialist
Sea Turtle Conservancy

Closing Remarks:

Dr. Rachel Ball
Director

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

Bowling Green Campus Students

Caroline

Isabel Baggette	Nanticoke Room	8:30
Nelson Bonilla	Chester Room	9:20
Paula Peterson	Rappahannock Room	10:20
Jordyn Rollins-Williams	York Room	9:45
Kayli Smith	Potomac Room	11:35

King George

Emma Almassy	Susquehanna Room	11:10
Christopher Behre	Wicomico Room	8:55
Amar Dunham	Choptank Room	10:45
Eleanor Veazey	Potomac Room	9:45

King William

Caitlin Grant	Wicomico Room	11:10
Sofia Harrison	Choptank Room	8:55
Cassy Hixson	Chester Room	11:35
Hunter Maul	Susquehanna Room	9:20
Paityn Reed	James Room	10:20
Lindsey Shortt	Nanticoke Room	10:45
Jonah Snyder	Rappahannock Room	8:30

Glenns Campus Students

Gloucester

Clayton Garrett	York Room	10:20
Madelyn Junker	Choptank Room	9:45
Kathryn Parnell	Potomac Room	10:45
Kayla Schill	Susquehanna Room	10:20

King and Queen

Paula Perez	Choptank Room	11:35
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Mathews

Kylie Berry	Wicomico Room	9:45
Austin Crocker	York Room	8:55
Ethan Hill	Rappahannock Room	9:20
Abigail Hudgins	James Room	8:30
Alejandra McCurry	James Room	11:10

Middlesex

Lane Anderson	Wicomico Room	11:35
Katherine Brooke	Susquehanna Room	8:55
Wyatt Brown	Chester Room	10:45
Hunter Dunlevy	York Room	11:10
Sara Murray	Chester Room	8:30
Linton Robins	Nanticoke Room	11:10
Jackson Stamm	Rappahannock Room	11:35
Laura Walton	Nanticoke Room	8:55

New Kent

Isaac Barber	Rappahannock Room	10:45
Jesse Cousins	Potomac Room	9:20
Abigail Madson	James Room	9:45
Jane West	Potomac Room	8:30

Warsaw Campus Students

Colonial Beach

Jeremey Smith	York Room	11:35
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Essex

Jordan Akers	James Room	8:55
Holdyn Ambrose	Choptank Room	8:30
Emily Atkins	Chester Room	8:55
Jaime Beazley	York Room	8:30
Logan Cooke	Chester Room	9:45
Carys Perry	Susquehanna Room	8:30
Shelby Stokes	Susquehanna Room	8:30

Lancaster

Olivia Brocklebank	York Room	9:20
Madison Giese	Nanticoke Room	10:20
Marshall Lee	Wicomico Room	9:20
Grace Oren	Rappahannock Room	11:10
Kayla Oren	James Room	10:45
Daniel Smith	Potomac Room	11:10
Amanda Steensma	Susquehanna Room	11:35

Northumberland

Lauren Rahn	Wicomico Room	10:45
Taylor Rice	Nanticoke Room	11:35
Bay Wiggins	Rappahannock Room	9:45

Richmond

Tyler Cauthorn	Chester Room	10:20
Quentin Churchill	James Room	11:35
Margaret Collins	Chester Room	11:10
Alexandra Harris	Choptank Room	10:20
Katelynn Headley	Nanticoke Room	9:45
Jessica Medlin	James Room	9:20
Jordan Roberts	York Room	10:45

Westmoreland

Sydney Bakir	Choptank Room	11:10
Trinity Fauntleroy	Rappahannock Room	8:55
Kelsey Henry	Potomac Room	10:20
Corey Mumford	Susquehanna Room	10:45
Brittany Blake-Sandy	Potomac Room	8:55
Kelly Taylor	Choptank Room	9:20
Lydia Wallace	Wicomico Room	8:30

8:30 - 8:50		
Abigail Hudgins	The Effect of Organic Compost Tea vs. Chemical Fertilizer on Growth and Fruit Production of Tomatoes	James Room
Jaime Beazley	A Study of Leaf Senescence in Eastern Virginia	York Room
Jonah Snyder	What Are You Listening To?! The Effect of Background Music on Concentration and Cognitive Processing	Rappahannock Room
Jane West	Fiddler Crab Behavior in Captivity	Potomac Room
Carys Perry and Shelby Stokes	Are You Seeing What I'm Seeing?	Susquehanna Room
Lydia Wallace	It's Not Easy Being Green: Examining Factors for the Growth Rate Of <i>Chlorella vulgaris</i>	Wicomico Room
Isabel Baggette	Eye See You: Subconscious Reaction to Images of Eyes in Visual Messaging to Encourage Hand Sanitizer Use	Nanticoke Room
Holdyn Ambrose	The Comparison of Habitat to the Different Types of Organisms Caught	Choptank Room
Sara Murray	The Effect of Political Ads on Voter Response in the 2020 Election	Chester Room
8:55 - 9:15		
Jordan Akers	Will it Decompose?	James Room
Austin Crocker	Computer Based vs. Demonstrated Mathematic Assignments and Their Respective Scores from 2019-2021	York Room
Trinity Fauntleroy	The Effects of Sleep Deprivation on Memory Loss	Rappahannock Room
Brittany-Blake Sandy	Volleyball Exercise Study	Potomac Room
Katherine Brooke	Salinity and Temperature Effects on the Growth of Diploid Oysters in the Lower Rappahannock River	Susquehanna Room
Christopher Behre	SHIELD: Shooting Hindrance In Extreme Life-Threatening Disasters - Using Energy Conservation to Estimate Bullet Penetration into Differing Materials	Wicomico Room
Laura Walton	How Important is Shallow Water as Refuge for Small Prey Species in the Chesapeake Bay Food Web?	Nanticoke Room
Sofia Harrison	The Relationship Between ABO Blood Groups and Certain Personality Types	Choptank Room
Emily Atkins	The Effects of Ca CO₃ in Tap Water on Kidney Health	Chester Room

9:20 - 9:40		
Jessica Medlin	The Effect of Obesity on <i>Drosophila</i> Reproduction	James Room
Olivia Brocklebank	Set Fire to the Rain: An Analysis of Fire Call Frequencies During Severe Storm Events in a Rural Area	York Room
Ethan Hill	The Relationship of Climate Change to Hurricane Intensity	Rappahannock Room
Jesse Cousins	Are There More Hurricanes and Are They Getting Stronger?	Potomac Room
Hunter Maul	Ethanol: Trash or Treasure? A Comparison of Different Percents of Ethanol Mixed with Different Octanes on Small Combustion Engine Run Times	Susquehanna Room
Marshall Lee	Comparison of Hand Eye Coordination Between Individuals Who Do and Do Not Play Videogames	Wicomico Room
	FREE	Nanticoke Room
Kelly Taylor	Let's Play Ball: A Study on how the Material of a Softball Bat Affects Distance of a Ball Hit	Choptank Room
Nelson Bonilla	The More You Push Us, the More We Become: The Effect of Water Turbulence on Microalgae Growth Rate	Chester Room
9:45 - 10:05		
Abigail Madson	Lichen Abundance and Diversity in Cemetery Environments	James Room
Jordyn Rollins-Williams	It Ain't Easy Being Wheezy: The Effect of Sex, Age, and Geographic Location on Asthma and Allergy Frequency	York Room
Bay Wiggins	How the Increasing Microplastic Presence in the Oceans Poses a Threat to Vital Phytoplankton	Rappahannock Room
Eleanor Veazey	Vroom Vroom! Evaluation of Four Materials for Growing Aquatic Algae to Produce Biofuel	Potomac Room
	FREE	Susquehanna Room
Kylie Berry	Can 3D Printed Structures Provide Suitable Substrate for Fouling Organisms in the Lower Chesapeake Bay Estuary?	Wicomico Room
Katelynn Headley	Analysis of Bacteria Presence After High Pressure Hand Dryer Use	Nanticoke Room
Madelyn Junker	Effect of Drift of the Herbicide Dicamba on the Health of SAV in the Estuarine Environment	Choptank Room
Logan Cooke	Climate Change in the Chesapeake Bay	Chester Room

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

10:20 - 10:40		
Paityn Reed	A Statistical Analysis of Whether Dogs Resemble Their Owners	James Room
Clayton Garrett	Do the Virginia Coast and Chesapeake Bay Areas Possess Enough Wind To Make Wind Energy Effective?	York Room
Paula Peterson	The Effect of Excess CO₂ on Plant Growth	Rappahannock Room
Kelsey Henry	Ethnicity and Education: Do Gifted Programs Get a Passing Grade?	Potomac Room
Kayla Schill	Can Man-Made Ponds Serve All of the Ecosystem Functions of a Naturally Formed Pond?	Susquehanna Room
	FREE	Wicomico Room
Madison Giese	Running from Runoff: The Effects of Fertilizer and Herbicide Runoff on Brine Shrimp <i>Artemia</i> Hatch Rates	Nanticoke Room
Alexandra Harris	Running from COVID-19: The Physical and Mental Health Impacts on Students from the Pandemic	Choptank Room
Tyler Cauthorn	Is Yeti Really the Best Insulator?	Chester Room

10:45 - 11:05		
Kayla Oren	An Apple a Day Keeps the Doctor Away... Or Does It?	James Room
Jordan Roberts	Effect of Pharmaceuticals on the Reproductive Health of Brine Shrimp	York Room
Isaac Barber	Atlantic, Caribbean and Great Barrier Reef Coral Bleaching as a Function of SST	Rappahannock Room
Kathryn Parnell	Sequencing Analysis of Microbial Abundance and Diversity from Different Shorelines in the Lower Chesapeake Bay	Potomac Room
Corey Mumford	Chesapeake Bay Water Quality and Oyster Restoration	Susquehanna Room
Lauren Rahn	Catch of the Century!	Wicomico Room
Lindsey Shortt	Do You See What I See? The Correlation between Perceiving Faces in Optical Illusions and the Ability to Read Emotional Expressions in Faces	Nanticoke Room
Amar Dunham	Stress Levels of Mummichogs (<i>Fundulus heteroclitus</i>) in Response to Noise	Choptank Room
Wyatt Brown	Emotional Trauma in High School Athletes Caused by the Lack of Sports due to the Covid-19 Pandemic	Chester Room
11:10 - 11:30		
Alejandra McCurry	A Study on Mask-Wearing Behavior During the COVID-19 Pandemic	James Room
Hunter Dunlevy	Are Game Cameras Useful for Scientific Study in Varying Landscapes?	York Room
Grace Oren	Your Shoes are More than Smelly	Rappahannock Room
Daniel Smith	The Absorption Effects of Different Sports Field Materials	Potomac Room
Emma Almassy	The Effect of Hand Sanitizer Composition and Brand on Antimicrobial Efficacy	Susquehanna Room
Caitlin Grant	Follow the Leader: The Correlation Between Dominant/Submissive Personality Traits and the Tendency to Socially Conform	Wicomico Room
Linton Robins	Corrosion of Different Fish Hook Coatings Under Estuarine Saltwater Conditions	Nanticoke Room
Sydney Bakir	Baby Got Leatherback! The Anthropogenic Effects on Sea Turtle Nesting and Reproduction in North Carolina	Choptank Room
Margaret Collins	A Comparison of <i>Littoraria irrorata</i> Populations Along the Rappahannock River	Chester Room

11:35 - 11:55		
Quentin Churchill	Correlation Between BMI and 100m Sprint Times	James Room
Jeremy Smith	Lunar Effect on Fish Catch Rate	York Room
Jackson Stamm	Is the Effectiveness of Stopping the Spread of Covid-19 Related to College Size?	Rappahannock Room
Kayli Smith	Correlations Between the Traditional Diets of Different Cultures and the Human Genome's Disease Allele Frequency	Potomac Room
Amanda Steensma	The Best Way to Greet? An Analysis of Hand Cleanliness and Bacteria Transfer Through Handshakes	Susquehanna Room
Lane Anderson	How Clean is Clean? An Analysis of Cleaning Method Efficacy on Shared Surfaces in a Gym	Wicomico Room
Taylor Rice	The Effect of Rising Water Temperature on the Respiration Rate of Mummichogs, <i>Fundulus heteroclitus</i>	Nanticoke Room
Paula Perez	Nectar Feeding Preferences of Ruby-Throated Hummingbirds in the Middle Peninsula	Choptank Room
Cassy Hixson	It Wasn't Me! The Effect of Human Activity on Biodiversity in a Freshwater Marsh	Chester 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. Kayla Cahoon, *Ph.D. Candidate, Virginia Institute of Marine Science, College of William and Mary
Alumnus*

Ms. Kaitlyn Clark, *Master's Student, Virginia Institute of Marine Science*

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

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

Mr. Mark Hall, *CBGS Alumnus, University of Virginia*

Dr. I-Shuo Huang, *Post-doc, Virginia Institute of Marine Science*

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

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

Mr. Jackson Martinez, *Master's Student, Virginia Institute of Marine Science*

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

Mr. Bart Merrick, *National Oceanic and Atmospheric Administration - Chesapeake Bay Office*

Mr. Ja'Mel Reed, *CBGS Alumnus, University of Virginia*

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*

Ms. Kristen Sharpe, *Master's Student, Virginia Institute of Marine Science*

Ms. Abigail Sisti, *Ph.D. Candidate, 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*

CBGS Faculty

Claire Adrian-Tucci

James Beam

Sara Beam

Greg Dorsey

Dr. Kevin Goff

Livia Gong

Justine Henderson

Dr. Vinh Hoang

Meredith Jones

Gary Long

Jennifer Magruder

Stephanie McClain

Kim Olsen

Dr. Danielle Ross

Brooke Sanders

Phillip Sanderson

CBGS Staff

Fiora DeBorous

Teresa Drumheller

Rose Jones

Becky Sisson

CBGS Director

Dr. Rachel Ball



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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