Virginia Regional Junior Science and Humanities Symposium

February 24th, 2024

Hosted by:

LONGWOOD UNIVERSITY

Sponsored by:

Longwood Campus Police Number

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Future Meetings

62nd National JSHS

May 1-4, 2024
Albuquerque, NM

The 2024 National JSHS Registration launch is TBD.

All participants in the National JSHS must register through the National JSHS registration website. Participants include students; teachers; DoD/STEM professionals- invited officials, judges, presenters, speakers, volunteers; JSHS staff and all other guests- family members and friends.

63rd Regional Virginia JSHS

February 22nd, 2025
Longwood University
Farmville, VA

Virginia Regional Junior Science and Humanities Symposium

February 24th, 2024

Contents

About JSHS

The Junior Science and Humanities Symposium (JSHS) is a Tri-Service – US Army, Navy, Air Force, and the Department of Defense – program that encourages high school students to conduct original research in the fields of science, technology, engineering, and mathematics (STEM). Administered by the Academy of Applied Science (AAS), JSHS is a collaborative effort between the research arm of the Department of Defense (DoD) and nationwide colleges and universities. JSHS aims to prepare and support students to contribute as future scientists and engineers, both directly and indirectly, for DoD, federal research laboratories and to help advance the Nation's scientific and technological progress. More than 7,600 talented youth compete in 47 regional symposia across the US, Puerto Rico, and DoD Dependent Schools in Europe and the Pacific to receive recognition and scholarships for their research achievements. Finalists of the regional JSHS symposia advance to National JSHS, where the winners of each judging category are announced.

For more details, please visit: www.jshs.org

JSHS Objectives

- Promote research and experimentation in the sciences, technology, engineering, and mathematics (STEM) at the high school level.
- Recognize the significance of research in human affairs and the importance of humane and ethical principles in the application of research results.
- Identify talented youth and their teachers, recognize their accomplishments at symposia and encourage their continued interest and participation in science, technology, engineering, and mathematics (STEM).
- Expand the horizons of research-oriented students by exposing them to opportunities in STEM within the Department of Defense, academia, industry, and government.
- Increase the number of adults capable of conducting research and development.

The JSHS Program is sponsored by the:
Office of the Assistant Secretary of the Army for Acquisition, Logistics and Technology, Washington, DC; Office of Naval Research, Arlington, VA; and Air Force Research Laboratory (AFRL), Wright-Patterson AFB, OH; U.S. Office of the Secretary of Defense, Arlington, VA.

JSHS is administered by the Academy of Applied Science, a non-profit educational organization in Concord, NH, in cooperation with higher education.

About Longwood University

Situated in the heart of Virginia, and the heart of the nation's oldest two-college community of Farmville, Longwood is one of America's hundred-oldest colleges and universities. A public liberal arts university of 5,000 students, Longwood has a distinctive mission: to shape citizen leaders.

Longwood is known for its mission, camaraderie, and small class size. Students have unparalleled access to faculty members, as Longwood has the highest percentage of courses taught by full-time faculty of any public university in Virginia. Students are famous for their enthusiastic extracurricular involvement—many are members of several of the more than 200 clubs and organizations on campus.

Over the past decade, Longwood has become recognized as a statewide leader on keeping college costs affordable for families—the average annual tuition raise at the university is among the lowest in the commonwealth among public universities. That has come while major construction projects have added exciting new spaces to campus, including the 79,000-square-foot Upchurch University Center, new academic building, dramatic renovation of Curry and Frazer residence halls, and a planned convocation center that will break ground this spring.

Longwood's historic 60-acre central campus has witnessed some of the most critical events in American history. The final hours of the Civil war played out along High Street on the north end of campus, while in 1951 the south end of campus witnessed the student-led birth of the modern civil rights movement with the student strike at the then all-black Moton School. The strikers' campaign for educational opportunity became an essential part of the Brown v. Board of Education school desegregation case, accounting for 75 percent of plaintiffs. Today, Moton is an award-winning museum affiliated with Longwood and plays an important role in the life of the university.

President's Welcome

Visitors to the Junior Sciences and Humanities Symposium,

Welcome to Longwood University in the heart of Virginia. We are honored to host the Virginia Regional Symposium, which will bring so many talented and accomplished high school students, teachers, and parents to campus.

At this meeting, you'll engage in a rich exchange of scientific ideas and perspectives that will inspire and challenge your thinking. I can think of no more fitting place for that type of gathering than a university campus, where those exchanges are fostered daily.

Longwood is one of the hundred-oldest colleges and universities in the country, a Virginia public institution with a distinctive mission to create citizen leaders. Our science programs are a great point of pride—we have a number of thriving research programs for undergraduates, including our signature paid summer research experience called PRISM. Participants have gone onto top graduate schools nationally and have found rewarding careers in the STEM fields. As you get to know us, I hope you'll consider Longwood as an option for your own collegiate career. It is a beautiful place, and one of great camaraderie, cherished traditions, and where the professor-student relationship is nurtured, and truly has an impact on the lives and careers of students.

I also hope you'll find time to wander through our historic campus and down the hill to downtown Farmville, as charming a college town as you can find in any corner of the country. It's a place rich in history, including as a birthplace of the student-led Civil Rights movement, honored at the Moton Museum on the southern edge of campus.

We applaud your achievements in science, technology, engineering and mathematics, and are happy to have you on campus. I hope that your time here will be productive, enlightening, and that you return soon.

Sincerely,

W. Taylor Reveley IV
President

Meet the Hosts

Program Director – **Sarah E. G. Porter, Ph.D**. Dr. Porter is an Associate Professor of Chemistry at Longwood University, where she has taught since 2007. She is currently serving as the director of the Longwood Summer Scholars: Exploring Science program (funded jointly by the AEOP and the American Chemical Society). She has a Ph.D. in chemistry from Virginia Commonwealth University and a M.S. in forensic science, also from Virginia Commonwealth.

Regional Director – **Andrew A. Yeagley, Ph.D**. Dr. Yeagley is an Associate Professor of Chemistry that joined the ranks at Longwood University in 2013. He is currently the Longwood faculty senate chair. His research interests are in medicinal chemistry, but is formally trained as a Ph.D. organic chemist from the University of Virginia and further studied biofilm inhibitors under Dr. Christian Melander at North Carolina State University.

Assistant Director – **Tyler St. Clair, Ph.D**. Dr. Tyler St. Clair earned a master's degrees in chemistry and in secondary science teaching from the University of Virginia before getting a Ph.D. in science education from Oregon State University. For several years he taught high school chemistry, physics, and general science in both China and New York. Since that time, he has been an assistant professor at SUNY Potsdam before joining Longwood University. His research interests include studying project-based learning with a global focus, teaching the nature of science, and chemistry/polymer education.

Assistant Director – **Larry B. Collins, Ph.D.** Dr. Collins is a Lecturer of Environmental Science and joined the faculty of Longwood in 2023. He graduated from Mansfield University with a B.S.E. in Earth/Space Science Education and taught high school earth/environmental science in Altavista, VA for several years. He decided to pursue graduate school and earn a master's in paleoclimate from Mississippi State University and PhD at Washington State University. Dr. Collins conducts research in the area of climate science and teaches courses at the introductory to upper level in the earth/environmental sciences.

A Thank You to Our Judges

Longwood University would like to thank the many judges that have taken their time to volunteer here at the Virginia Regional Junior Science and Humanities Symposium. Without their devotion to the sciences, events like this are not possible.

Kristen Boyle
Jennifer Bradley
Benjamin Campbell
Travis Chiarelli
Larry Collins
Kathy Fox
Ruth Holliday
Jeff Ledford
Mary Lehman
Madison Lester
Robert Marmorstein
Lauren May
Ann Mayo
Gary Page
Leslie Poling
Marian Swift
Gaelan Venturi
Jonathan White
Jordan Williams
Viranga Wimalasiri

Summary Schedule of Events

Schedule for attendees

Time	Event	Location
7:30 a.m. – 8:15 a.m.	Registration and continental breakfast	Chichester main lobby
8:30 a.m. -12:30 p.m.	**Oral presentations**	**Chichester classrooms**
12:30 p.m. - 1:30 p.m.	Lunch and round table discussions	Dorrill Dining Hall
1:30 – 2:30 p.m.	Department bullpen sessions and tours of Chichester	Upchurch Gallery
2:30 – 3:30 p.m.	Campus tours (leave from Upchurch)	Leave from Upchurch
1:00 – 3:45 p.m.	Lawn games	Wheeler Lawn
4:00 – 4:30 p.m.	Awards ceremony	Soza Ballroom, Upchurch

Schedule for judges

Time	Event	Location
7:15 a.m. – 7:45 a.m.	Registration and continental breakfast	Chichester main lobby
7:45 – 8:15 a.m.	Orientation	Chichester G12
8:30 a.m. -12:00 p.m.	**Oral presentations**	**Chichester classrooms**
10:00 – 10:15 a.m.	Break	
10:15 a.m. - 12:30 p.m.	**Oral presentations**	**Chichester classrooms**
12:30 p.m. - 1:30 p.m.	Working lunch and final candidate discussions	Chichester classrooms, lunch in front lobby
1:00 – 3:00 p.m.	Special/Head Judges read papers and final decisions	Various
4:00 – 4:30 p.m.	Awards ceremony (optional for judges)	Soza Ballroom, Upchurch

Presentation Room Locations

- Engineering &Technology
- 8:30 - 11:30

Rm 105

- Chemistry
- 10:00 - 11:15

Rm 112

- Mathematics & Computer Science
- 8:30 - 11:30

Rm 213

- Biomedical Sciences
- 8:30-9:45

Rm 112

- Behavioral & Life Sciences
- 8:30-10:15

Rm 109

- Medicine & Health A
- 8:30-10:45

Rm G11

- Medicine & Health B
- 8:30-10:30

Rm G06

- Environmental Science A
- 8:30-11:45

Rm G02

- Environmental Science B
- 8:30-11:45

Rm G03

Schedule of presentations:

Engineering & Technology

Room 105

8:30AM: **The Effect of Vertical Oscillation and Cycles per Minute on the Effective Detection of a 24 GHz Device**
Erika Milhorn from Central Virginia Governor's School

8:45AM: **Method of Apparatus Jump Rope Counting based on Piezoelectric Ceramics**
Peilin Zhang from The Madeira School

9:00AM: **Spring Pendulum-Assisted Triboelectric Nanogenerator for Efficiently Harvesting Vibration Energy**
Joshua Namkoong from Tabb High School

9:15AM: **Enhancing Driving Safety via Real-Time Suppression of Vehicle Radar Interference**
Alexander Li from Blacksburg High School

9:30AM: **The Effects of Cleaner Fuel on Rocket Launches**
Jy'Sland LeSane from I. C. Norcom High School

9:45-10:00AM: Break

10:00AM: **The Use of Arachnids as Biotic Material to Create Life-Sized Necrorobots Through Biological Hydraulic Systems as Actuators**
Malak Abdalla from Academies of Loudoun

10:15AM: **Effects of Supportive Insoles on Foot Pressure and Performance during Soccer Movements**
Kyler Williams from Blacksburg High School

10:30AM: **Simulations of Stress and Strain on Silicon Scaffolds in Different Angled orientations in a staggered and non-staggered configuration**
Sri Sambangi from Mills E. Godwin High School

10:45AM:
Parth Tornekar from Maggie L. Walker Governor's School

11:00AM: **A low-cost, low-field, nuclear magnetic resonance quantum computer**
Pius Lee from Academies of Loudoun

11:15AM: **Finding Novel Stable Photocatalysts for H2 Production With Generative AI**
Abhinav Maru from Deep Run High School

Schedule of presentations:

Life & Behavioral Sciences

Room 109

8:30AM: **Food for Thought: Can Intermittent Fasting Induced Ketosis Ameliorate Dementia by Decreasing Tau Hyperphosphorylation and Neuroinflammation in *Drosophila melanogaster*?**
Rania Lateef from Charles J Colgan and Governor's School at Innovation Park

8:45AM: **The effect of *Gelsemium sempervirens* extract on social interaction of a traumatic injury induced *Drosophila melanogaster* offspring model (mimicking preterm birth defects)**
Saumik Das from Academies of Loudoun

9:00AM: **Comparing Sister Cropping to Various Modern Fertilizers Indoor versus Outdoor**
Madison Hensley from Chesapeake Bay Governor's School

9:15AM: **An Analysis of Gender Equality and National Success: Are You Happy, Healthy, and Wealthy?**
Lily Brame from CBGS

9:30AM: **MasterMind: A Novel Multi-Output Model Approach to Detecting Mental Illnesses through Natural Language Processing**
Kabilan Prasanna from Lightridge High School

9:45AM-10:00AM: Break

10:00AM: **Investigating the Impacts of Polystyrene Nanosphere Exposure on Phototaxis Behaviors of *Gromphadorhina portentosa* (Madagascar Hissing Cockroach)**
Katherine Thomson from Academies of Loudoun

Schedule of presentations:

Medicine & Health A

Room G11

8:30AM: **Developing Custom-Fit CPAP Mask Prototype in Patients with Obstructive Sleep Apnea**
Rutvi Sheth from Deep Creek High School

8:45AM: **Haloperidol Inhibits Inflammasome Activation via the Novel Receptor LAMTOR1 and Reduces the Risk of Rheumatoid and Gouty Arthritides**
Vidya Ambati from Albemarle High School

9:00AM: **The Effect of Ultraviolet Light Protection Products on the Amount of Absorbed Light and Consumer-Based Health Risks**
Sofia Demchenko from Mills E. Godwin High School

9:15AM: **The Effect of Pharmacodynamic Constituents on KRAS Protein of Metastatic Pancreatic Cancer**
Ria Chandran from Mills E. Godwin High School

9:30PM: **Comparing the inactivation of Escherichia coli through the use of bacteriocins isolated from Lactococcus lactis in conjunction with various chelators to modern pasteurization methods in milk products**
Addison Buck from Academies of Loudoun

9:45AM-10:00AM: Break

10:00AM: **The Effect of New Generation Pesticides on Memory and Social Behavior in Drosophila melanogaster as a Model Organism**
Aarya Paranjpe from Academies of Loudoun

10:15AM: **The Effect of the Duration of Pacifier Usage on Speech Development**
Samantha McKenney from Chesapeake Bay Governor's School

10:30AM: **The Causes of Spontaneous Firing of Cardiac Muscle and Effects of Ion Concentration**
Minhyung Lee from Blacksburg High School

Schedule of presentations:

Medicine & Health B

Room G06

8:30AM: **Minimizing In-Vitro Fertilization Failures By Utilizing Artificial Intelligence to Evaluate the Health of Human Embryos**
Ashrita Gandhari from Thomas Jefferson High School for Science and Technology

8:45AM: **An Explanatory Mixed Methods Study of Young Black Women's Breast Cancer Knowledge and Beliefs**
Chinenye Ilodianya from Riverside High School

9:00AM: **The Effect of Foods that Mimic ACE Inhibitors on the Flame Cell Function of**
Jenna Saleh from Central Virginia Governor's School

9:15AM: **The Physiological Effects of Cumin as a Homeopathic Remedy for Cystic Fibrosis in *Drosophila Melanogaster***
Manha Saleha from Governors School at Innovation Park

9:30AM: **The Effect of Diphenhydramine Hydrochloride on the Regeneration Rate of *Dugesia Dorotecephala***
Sean Kim from Central Virginia Governors School

9:45-10:00AM: Break

10:00AM: **NephroNet: A Novel Program for Identifying Renal Cell Carcinoma and Generating Synthetic Training Images with Convolutional Neural Networks and Diffusion Models**
Yashvir Sabharwal from Battlefield High School

10:15PM: **The Effects of the Work Environment on Adult's Healthcare**
Christina Hatcher from I. C. Norcom

Schedule of presentations:

Mathematics & Computer Science

Room 213

8:30AM: **Modeling the Eradication and Spread of Poliomyelitis in Relation to Hesitancy in Vaccine Acceptance**
Venkata Naga Sai Kaushik Yadala from Central VA Governor's School

8:45AM: **Predictive Wildfire Modeling: Leveraging Machine Learning to Allocate Resource and Develop Effective Prevention Strategies**
Abhi Somala from Deep Run High School

9:00AM: **Equivariant Graph Attention Networks with Structural Motifs for Predicting Cell Line-Specific Synergistic Drug Combinations**
Zach Schwehr from Mills E. Godwin High School

9:15AM: **Predicting Lung Cancer Using Machine Learning**
Ritvik Kancharla from Mills. E Godwin High School

9:30PM: **The Economic Impact of California's Recent Out-Migration on its Neighboring States**
Lishu Wang from Blacksburg High School

9:45AM: **Investigating the Factors Which Allow for the Stability of Planetary Orbits in Binary Star Systems Using Numerical Simulations Based on Initial Planetary Positions**
SId Jakoubek from Blacksburg High School

10:00-10:15AM: Break

10:15AM: **The Impact Comparison of Artificial Intelligence on Different Occupations in the Labor Market**
Isabella Liu from Blacksburg High School

10:30AM: **A Study of Algorithmic Models on Predicting Prognostic Biomarkers in Diabetic Polyneuropathy**
Asiya Shariff from Mills E Godwin High School

Schedule of presentations:

Biomedical Sciences and Chemistry

Room 112

8:30AM: **Investigating the Impact of Parasitic Worm Secretions on Anaphylaxis as Novel Treatment for Food Allergies**
Ethan Ririe from Blacksburg High School

8:45AM: **Type I γ Phosphatidylinositol Phosphate 5-kinase regulates Hippo Signaling Pathway**
Emily Yang from Mills E. Godwin High School

9:00AM: **The Effect of Neurotransmitters on Synaptic Plasticity: Computationally Assisted**
Aarush Varma Rudraraju from Mills E. Godwin High School

9:15AM: **Phytotherapies On Diabetic Transgenic *C. Elegans***
Maryam Bilal from The Governor's School at Innovation Park

9:30PM: **The Deficiency of Acid Ceramidase Promotes Intracellular Nanovesicle Biogenesis Contributing to Aortic Stiffness**
Alice Zhang from Mills E. Godwin High School

9:45AM-10:00AM: Break

10:00AM: **The Effect of Natural Phenolic Compounds on Reducing Oxidative Stress**
Avani Kaur from Mills E. Godwin High School

10:15AM: **Investigating the Therapeutic Potential of Natural Products on AGE Formation and Function in MyC-CaP Prostate Cancer Cells**
Bhoomika Kaur from Mills E. Godwin High School

10:30AM: **Utilizing pH-responsive Nanostructured Lipid Carriers for Targeted Drug Delivery**
Ruth Mulugeta from Osbourn Park High School

10:45AM: ~~**ZIF-based Esterase Catalyst for Complete Polyethylene Terephthalate Hydrolysis**~~
~~David Hawkins from The Governor's School at Innovation Park~~

11:00AM: **Aerogel as an Air Purifier**
Andrew James Funk from The Governor's School at Innovation Park

Schedule of presentations:

Environmental Science A

Room G02

8:30AM: **Mycorrhizal Pathways Between *Quercus alba* and *Fagus sylvatica***
Alexander Farmer from Roanoke Valley Governor's School

8:45AM: **The Effect of Activated Carbon on the Quantity of Chlorine in Water**
Mishaal Haq from Mills E. Godwin High School

9:00AM: **Organic Mercury and Avian Foraging: The Impact of Methylmercury Exposure on the Feeding Rates of Invertivorous Passerines**
Xavier Gitre from Blacksburg High School

9:15AM: **The Impact of Livestock Antibiotics on Marsh Microbes**
Layla Leo from Northumberland High School

9:30AM: **The Effect of Citric Acid on Heavy Metal Rhizofiltration Efficiency**
Pranav Sundarrajan from Mills E. Godwin High School

9:45AM: **The Correlation of Arctic Cyclones and Sea Ice Loss and its Relationship to Climate Change**
Chloe Herold from Roanoke Valley Governor's School

10:00AM: **Fighting Global Warming's Evil Twin: A Study on Alkalinity and Calcium Buffering Capacity in the Lower Chesapeake Bay**
Camryn Micket from Chesapeake Bay Governors school

10:15-10:30AM: Break

10:30AM: **Examining Autochthonous Alternatives to Tropical Coconut Coir for Shoreline Engineering**
Libbie Hospodar from Chesapeake Bay Governor's School

10:45AM: **Hydrilla verticillata in the Chickahominy River- Are All Invaders Really Bad?**
Lily Mae from Chesapeake Bay Governor's School

11:00AM: **Assessing Reproductive Substrate Availability and Timing for Chrysaora chesapeakei**
Ailin Harpole from Chesapeake Bay Governor's School

11:15AM: **The Effect of UV Exposure and Ocean Acidification on Spirulina Major**
Josh Rizer from Governors School at Innovation Park

11:30AM: **Relationship Between Below Ground Biomass and Soil Organic Matter: A Case Study in Mt. Tabor**
Sage Lahmers from Blacksburg High School

Schedule of presentations:

Environmental Science B

Room G03

8:30AM: **The Effect of Coffee Fertilizer on Pepper Plant Growth**
Trinh Nguyen from Godwin High School

8:45AM: **Putative toxins and their effect on Cyclops Copepods in the Chesapeake Bay**
Khadeejah Alsheikh from The Governor's School at Innovation Park

9:00AM: **The Effect of Different Substrates on the Efficiency of a Waste-Based Microbial Fuel Cell**
Anika Parashar from Hidden Valley High School

9:15AM: **Effectiveness of Glycine max on Microplastic Removal from Soil**
Josephine Eaton from Roanoke Valley Governor's School

9:30AM: **Prevalence of Macroparasites *Polydora webseri* and *Zaops ostreus* Within Crassostrea Virginia in Varying Environmental Conditions**
Bevan Ransone from Chesapeake Bay Governors School

9:45AM: **The Effect of Hydrocolloid Edible Coatings on Ripening of Bananas**
Barathi Saravanan from Mills E. Godwin High School

10:00AM: **The Effect of Temperature on D. magna's Reproduction, Eating Patterns**
Isabella Carter from The Governor's School at Innovation Park

10:15-10:30AM: Break

10:30AM: **Study of Conservation in Virginia Using Bobwhite Quail as an Indicator Species**
Grace Crowe from Blacksburg High School

10:45AM: **Synthesizing a Gel-Based Air Freshener with Carbon Capture Abilities Through the Use of Mineral Sequestration**
Sarah Fikrine from The Governor's School at Innovation Park

11:00AM: **The Correlation Between the Carbon Cycle and Cardiovascular Disease in First and Third World Countries**
Aran Jothi from Central Virginia Governor's School

11:15AM: **The Effects Of Saltwater On Plants**
Ty'asia Williams from I. C. Norcom

11:30AM: **Enzymatic Engineering for Enhanced Plastic Degradation in a Novel Plasmid System**
Sriya Sridhar from Blacksburg High School

Judging Score Sheet

JUNIOR SCIENCE AND HUMANITIES SYMPOSIUM

ORAL JUDGING RUBRIC – 2023-2024 (Revised)

Judges will use the following criteria to compare student presentations. The points earned are determined using a 1-5 scale then scaling that score (multiplied by 2 or 3) to the points possible for that criteria.

Criteria	Points Possible
Identification of Research Problem	5
Scientific Thought	5
Creativity/Originality	5
Acknowledgements	5
Research Design	15
Methods	15
Results	15
Discussion & Conclusions	15
References	5
Communication	15

You can find the full rubric here:

Longwood Honors College

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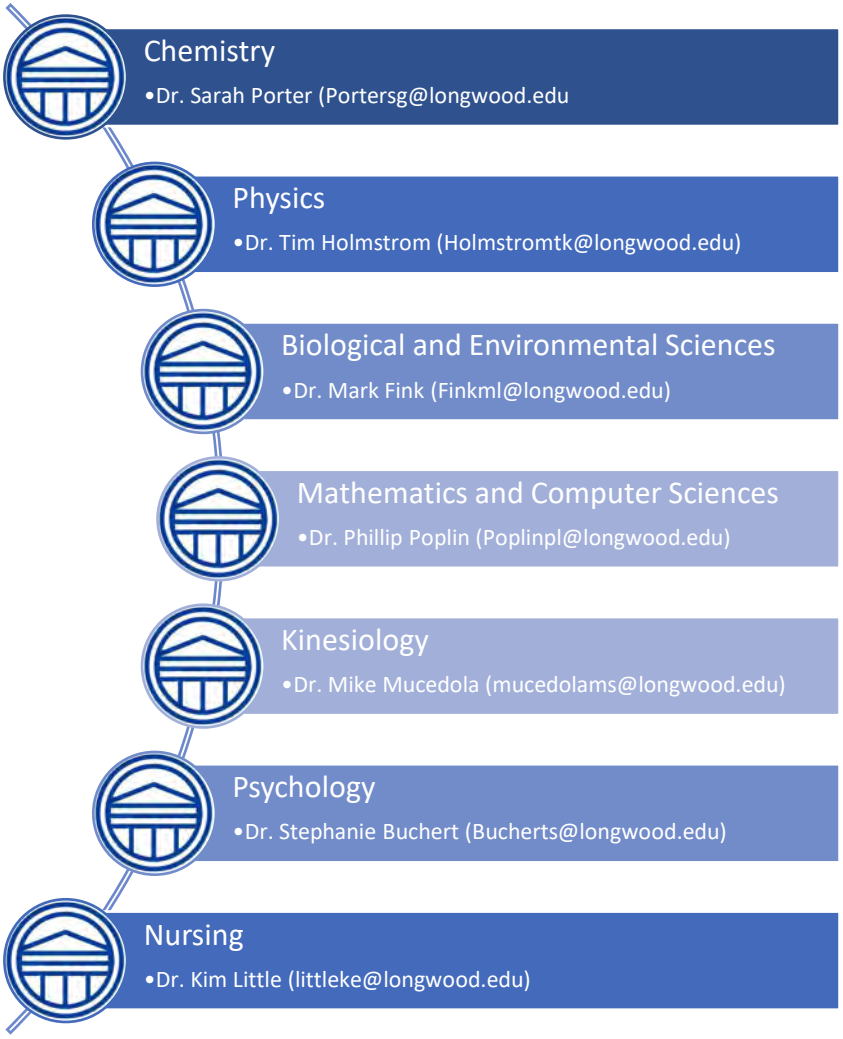
Step 3: Apply to the Cormier Honors College!

Visit: longwood.edu/honors

Questions? Email honors@longwood.edu

Academic Departments in STEM at Longwood



Visit Longwood

Other Opportunities

The goal of the program is to make research and data science more accessible to high school students, and through the program, students learn how to design and conduct independent data science research projects using cloud computing and publicly available datasets.

The program consists of three main parts:

- **Research and data science bootcamp:** Students learn how to design and conduct data science research projects. Students learn about the research process and how to apply statistical and machine learning methods to address scientific questions with real-world impact.
- **Masterclass lecture series:** Students are connected to accomplished young adults around the world. Students have the opportunity to learn about entrepreneurship from Forbes 30 Under 30 recipients, science research from International Science and Engineering Fair (ISEF) grand prize winners, and other topics from speakers with diverse backgrounds and experiences.
- **Mentored research project:** Students complete a research project through a rigorous, hands-on learning experience under the guidance of mentors. Last year, students have worked in a variety of fields, from computational biology to quantum physics.

Many students who attended the program said SSI changed their lives and asked for our team to continue running SSI in future years. You can view distinguished research projects and read about student experiences on our website.

Virginia Regional JSHS Awards

Each section (category) will have a gold medallion award. The gold medallion winners make up the selection pool for the three scholarship winners (see below) and 5 invitees to the National Junior Science and Humanities Symposium, except for team projects. Teams may receive gold medallions, but are not eligible for scholarships or trips to the National JSHS.

Army-Navy-Air Force Scholarship Awards (Regional Winners)	
For 1st Place oral presentation	**$2,000***
For 2nd Place oral presentation	**$1,500***
For 3rd Place oral presentation	**$1,000***
Army-Navy-Air Force Teacher's Award Award honors the teacher and the school for contributing to the advancement of student participation in research.	**$500**

**Scholarship amounts are subject to change according to JSHS sponsors.*

***Eligibility for scholarship awards**

Students must be a citizen or permanent resident of the United States to be eligible for government supported scholarship awards.

All scholarships are payable upon matriculation to college and upon meeting the JSHS scholarship conditions.

National JSHS Awards

In addition to scholarships, the Departments of the Army, Navy and Air Force invite the top five finalists from the Virginia Regional JSHS Symposium to the National JSHS Symposium to present their original research; expenses paid. The 1st and 2nd place Virginia regional finalists will present their research in the oral competition to compete for National JSHS scholarships. The 3rd, 4th and 5th place regional finalists will present their research in the poster competition to compete for cash awards.

Army/Navy/Air Force/DOD Scholarship Awards
Presented at the National JSHS Symposium*

A total of $192,000 in undergraduate tuition scholarships is presented to the top three finalists in the National Symposium research paper oral competition in each of the subject categories.

Up to 7 - 1st place Scholarship Awards (Including the award made at the regional level, a total of up to a $14,000 scholarship)	**$12,000**
Up to 7 - 2nd place Scholarship Awards (Including the award made at the regional level, a total of up to a $9,500 scholarship)	**$8,000**
Up to 7 - 3rd place Scholarship Awards (Including the award made at the regional level, a total of up to a $5,000 scholarship)	**$4,000**

A cash award in the amount of $350 will be presented to the top finalists in the National Symposium research poster competition in each of the subject categories.

Each of the 1st Place finalists in the poster competition receives $350

*Scholarship amounts are subject to change according to availability of funds from JSHS sponsors.

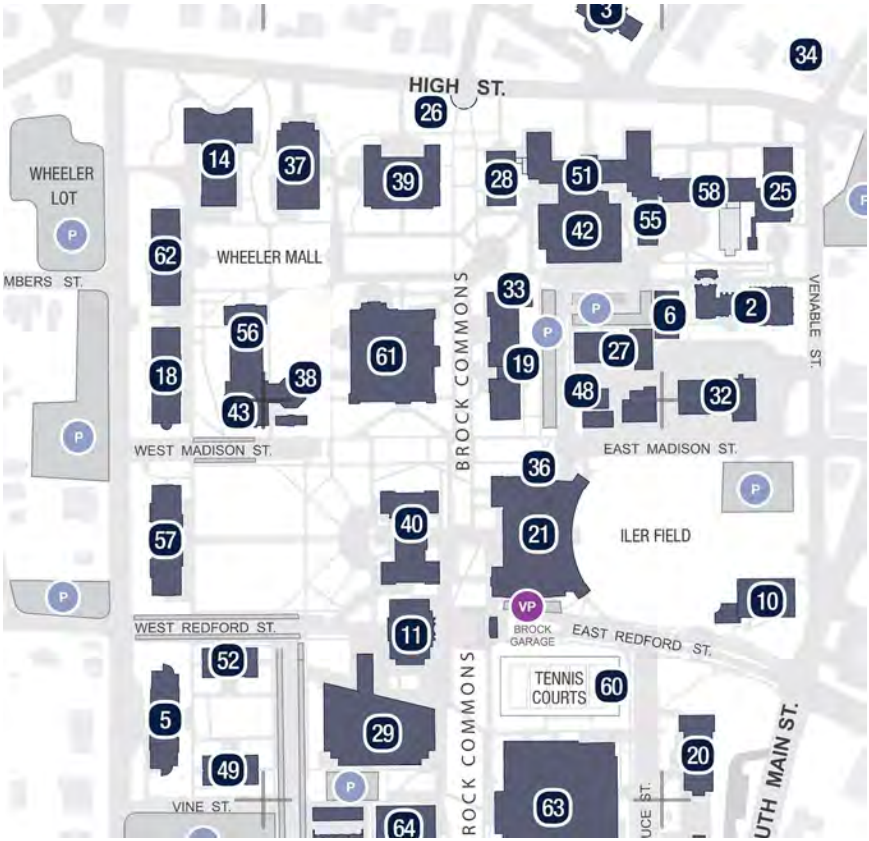
Scholarships are payable at a certain amount per year for 4 years; some restrictions apply.

***Eligibility for scholarship awards**

Students must be a citizen or permanent resident of the United States to be eligible for government supported scholarship awards.

All scholarships are payable upon matriculation to college and upon meeting the JSHS scholarship conditions.

Campus Map



Parking: Park in the Wheeler Lot for all events (next to building 62)

Lodging: Holiday Inn Farmville (off campus – On morning of event please park in Wheeler)

Registration and presentations: Chichester Science Center (Building 14)

Afternoon activities: Various locations, most take place in Upchurch (building 61) or on the Wheeler Mall

Lunch: Dorrill Dining Hall (Building 21)

Award Ceremony: Sosa Ballroom (3rd floor of Building 61)