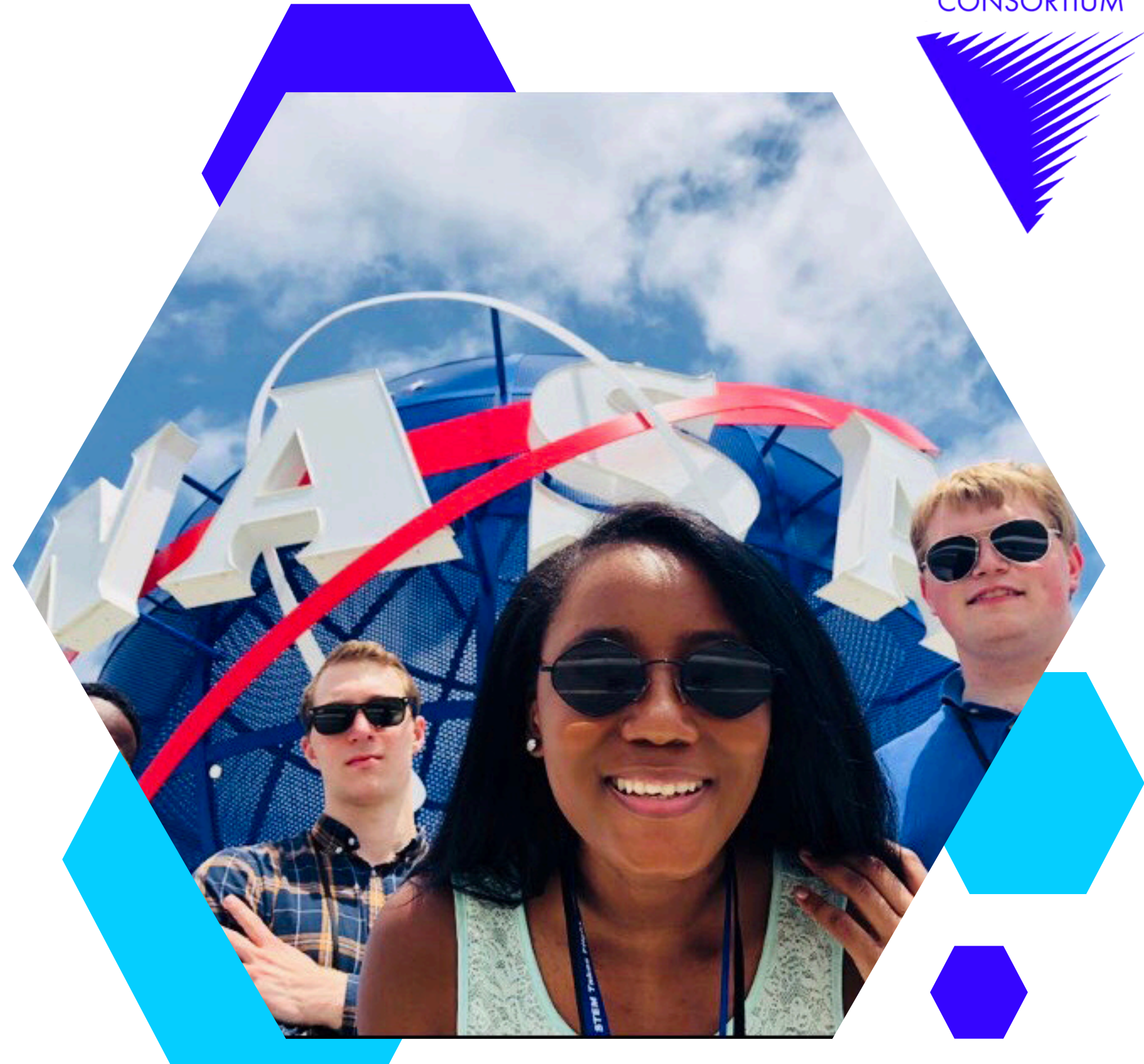
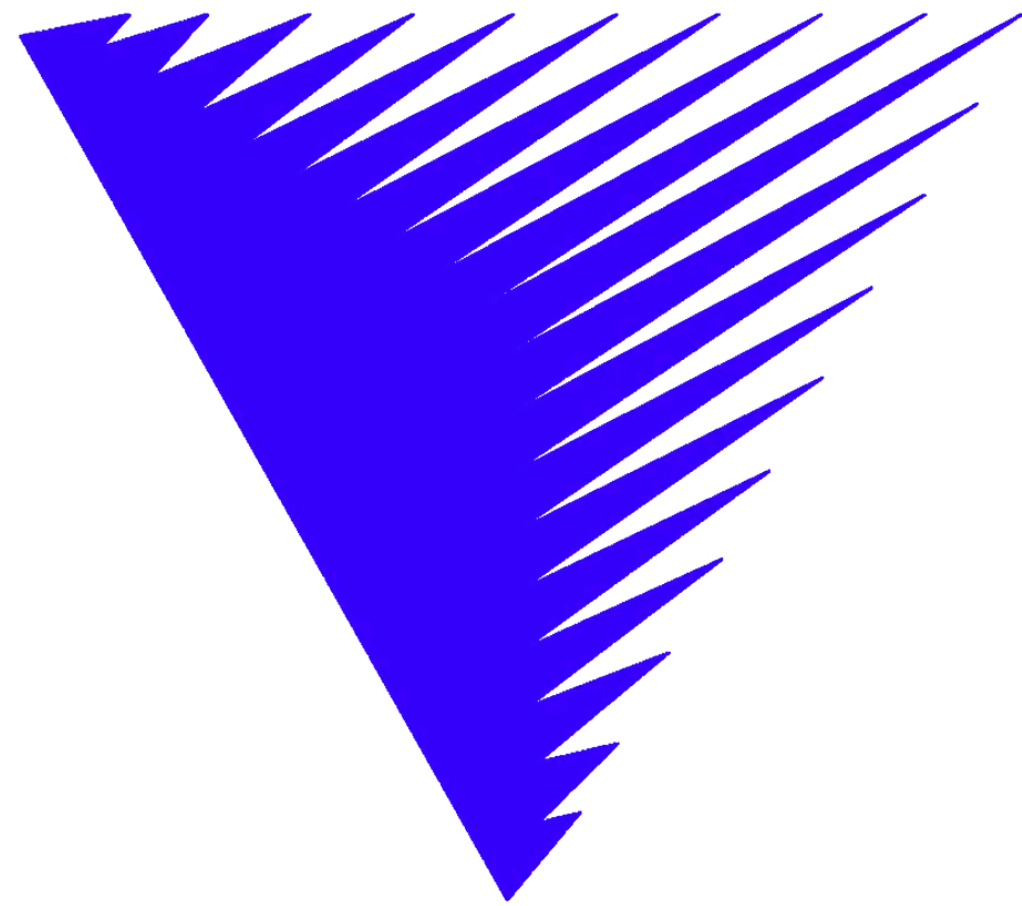


VIRGINIA SPACE GRANT CONSORTIUM

Kristyn Damadeo, Communications and
Development Manager
Chris Carter, Director

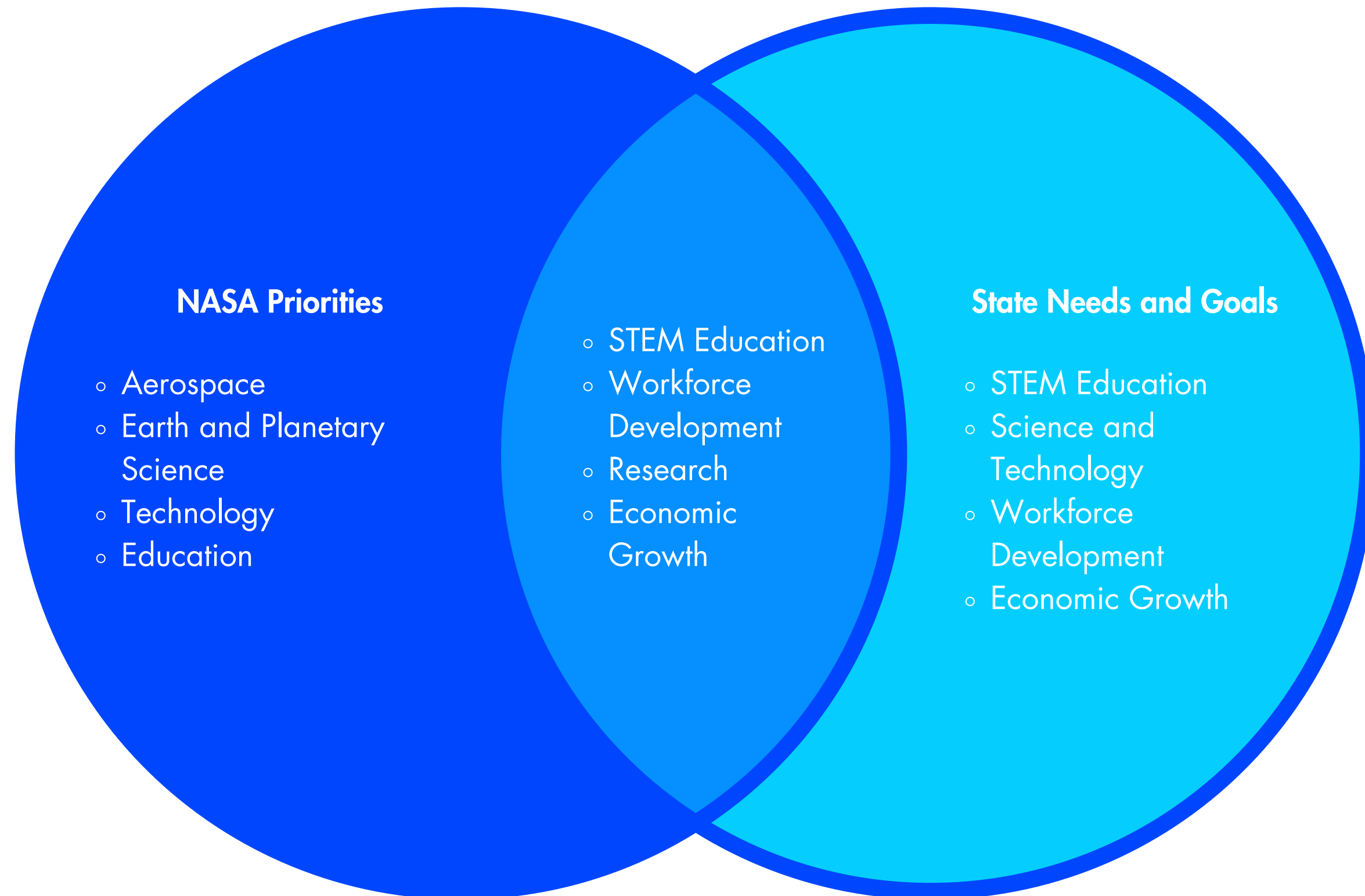
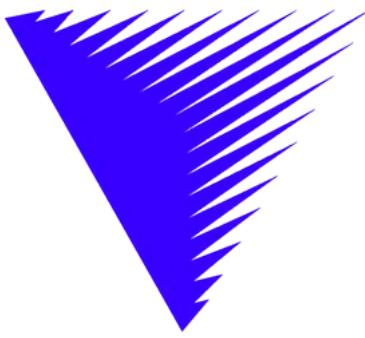




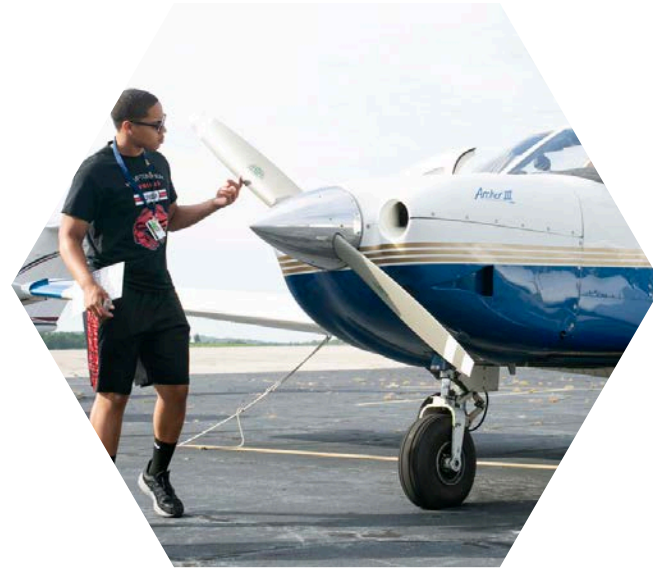
VIRGINIA SPACE GRANT CONSORTIUM

**Partnering with NASA, Industry, and Institutions to Provide STEM
Education, Promote STEM Research, and Prepare a Diverse STEM
Workforce**

National NASA Space Grant Program



History



- Established in 1989



- More than 800 program partners to date
- Work with **all** Virginia universities, community colleges, and school systems



- Funding from NASA, Virginia, and other partners
- Each NASA Space Grant dollar typically leveraged by about \$4-6 in other support



- Regional, state, national, and international programs

Consortium Members

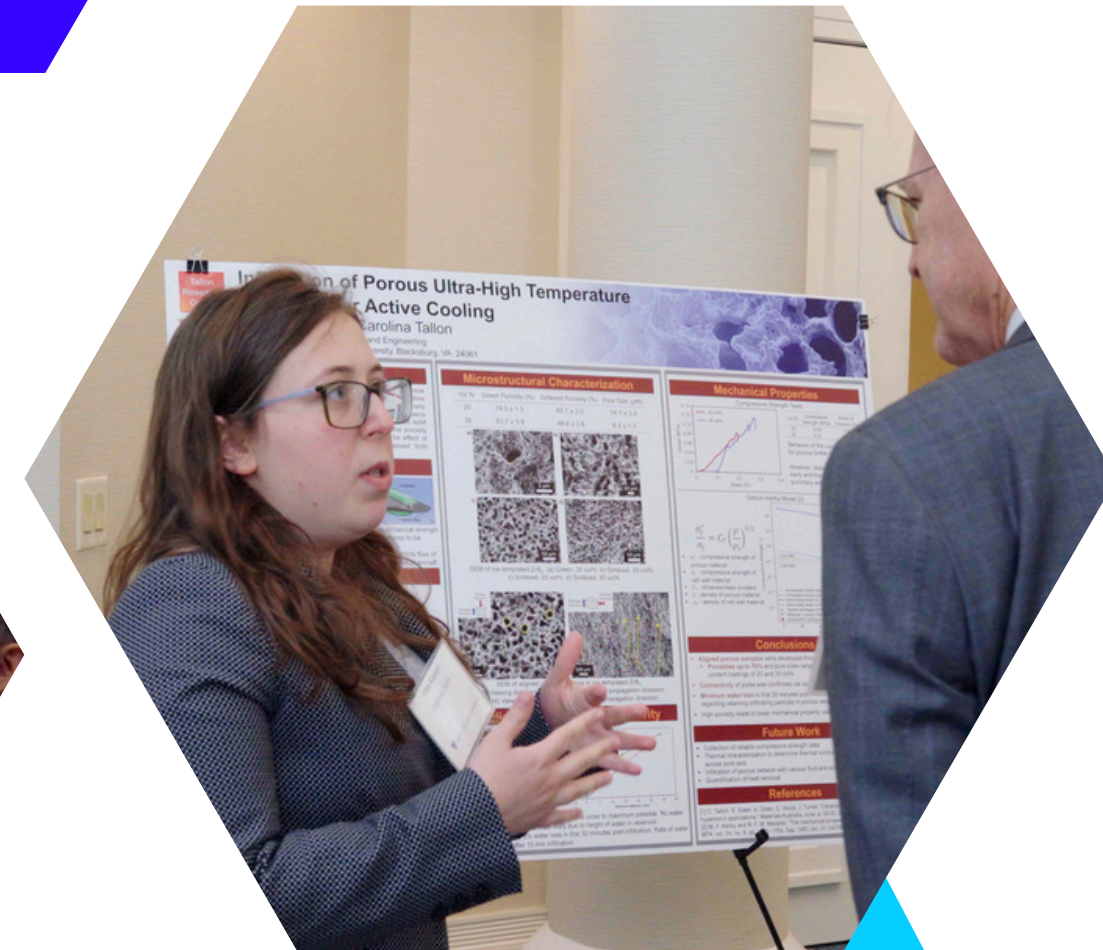
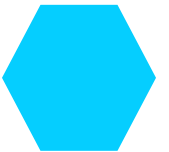
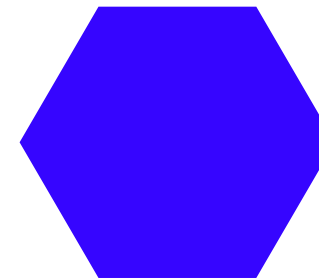
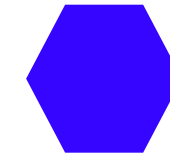
- NASA Langley Research Center
- NASA Wallops Flight Facility
- Old Dominion University
- Hampton University
- William and Mary
- University of Virginia
- Virginia Tech
- Virginia Innovation Partnership Corporation
- State Council of Higher Education Virginia
- Science Museum of Virginia
- Virginia Air and Space Science Center
- Virginia Department of Education
- Virginia Aerospace Business Association
- Virginia Department of Aviation
- Virginia Community College System
- MathScience Innovation Center



Board of Directors

- Dr. Tim Sands - Chair, Virginia Tech
- Darrell K. Williams, Hampton University
- Dr. Katherine A. Rowe, William & Mary
- Mr. James E. Ryan, University of Virginia
- Mr. Peter Blake, State Council of Higher Education for Virginia
- Mr. Joe Benevento, Center for Innovative Technology
- Dr. David Doré, Virginia Community College System
- Dr. Brian Hemphill, Old Dominion University

Meets twice yearly typically in April and October



Our Team



Chris Carter
Director



Mary Sandy
Director Emerita



Phoenix Williams
STEM Education
Specialist



Ian Cawthray
Education Programs
and Data Manager



Dr. Jennifer Penland
STEM Education
Specialist



Kristyn Damadeo
Communications and
Development Manager



Emmanuel Jimenez
Media Specialist



Debbie Baggett
STEM Education
Specialist



Dr. Scott Bellows
Technical Programs
Coordinator



Nicole Shaw
Programs Specialist



Sarah Pauls
Program Specialist



Priscilla Hill
Program Specialist



Debbie Ross
Program Specialist



Abram Boyer
Accountant



Kelly Chao
Assistant to the
Director

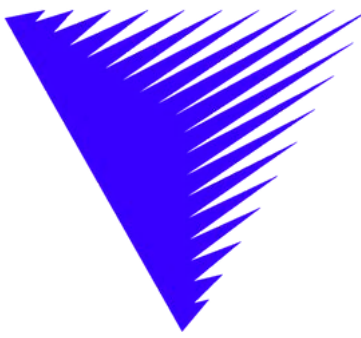
We provide **FREE** scholarships, fellowships, STEM (Science, Technology, Engineering, Math) courses and programs, internships with NASA and industry, **NASA** summer academies, educator professional development, and **STEM** research.

Programs

- Technology Exploration Saturdays
- BLAST
- Plant The Moon Challenge / Build the Moon Challenge
- VSCS, VASTS, VESSS
- Pathway Flight Academies /Private Pilot Ground School
- Scholarships/Fellowships
- STEM Takes Flight
- Commonwealth STEM Industry Internships Program
- Educator Professional Development
- Drone training
- Cybersecurity test prep
- Research funding



Building the STEM Workforce Pipeline

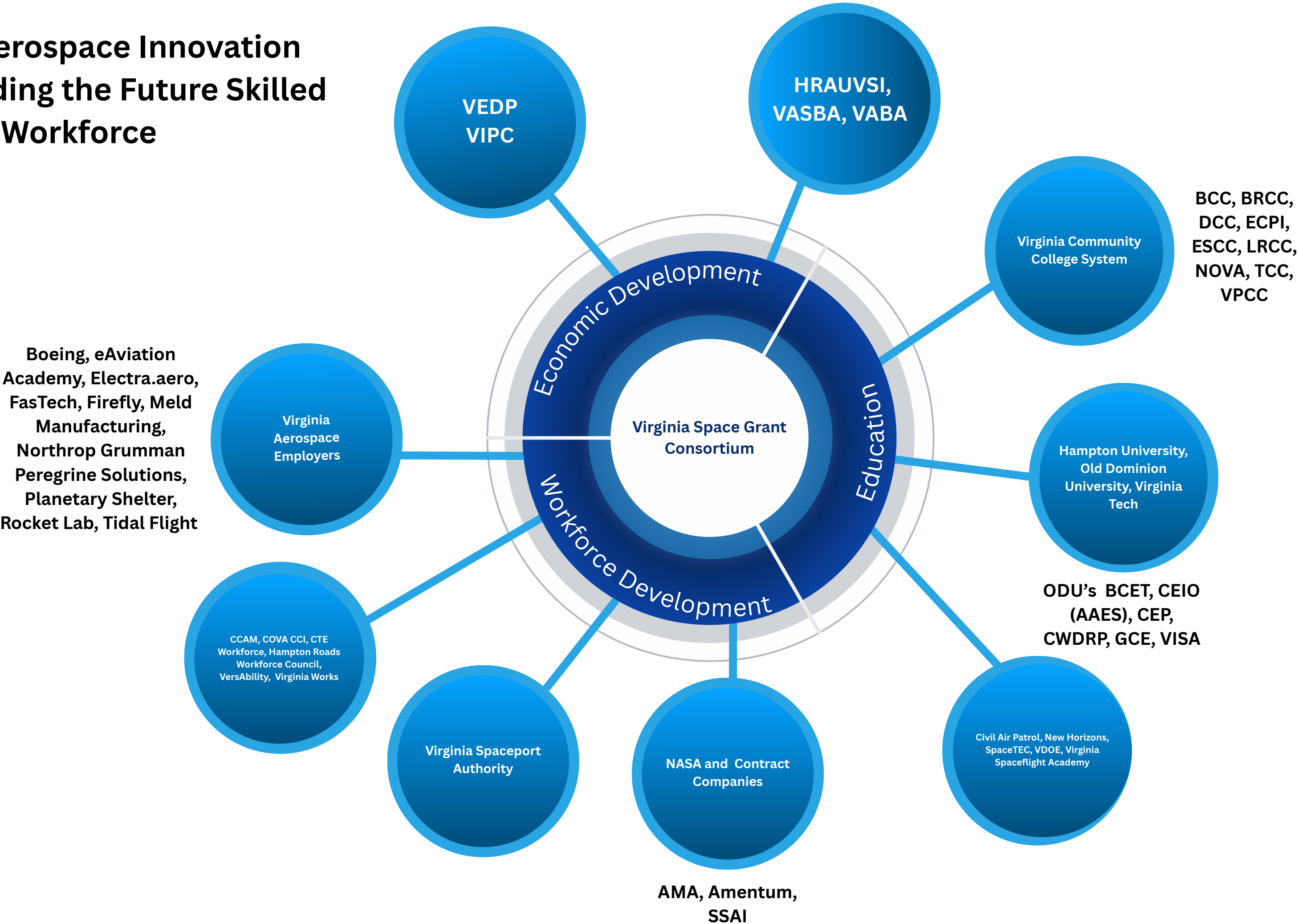


A progression of middle school, secondary school, and higher education programs to engage and sustain students in STEM (**about 1800 students per year**)

- Recruit students statewide
- All **FREE** of cost to participants
- Most have won best practice awards
- Immerse students in real-world projects, hands-on learning, service-learning projects, dual-enrollment credit, and with faculty/industry/NASA mentors



Virginia Aerospace Innovation Hub: Building the Future Skilled Technical Workforce



Virginia Aerospace Innovation Hub: Components and Structure

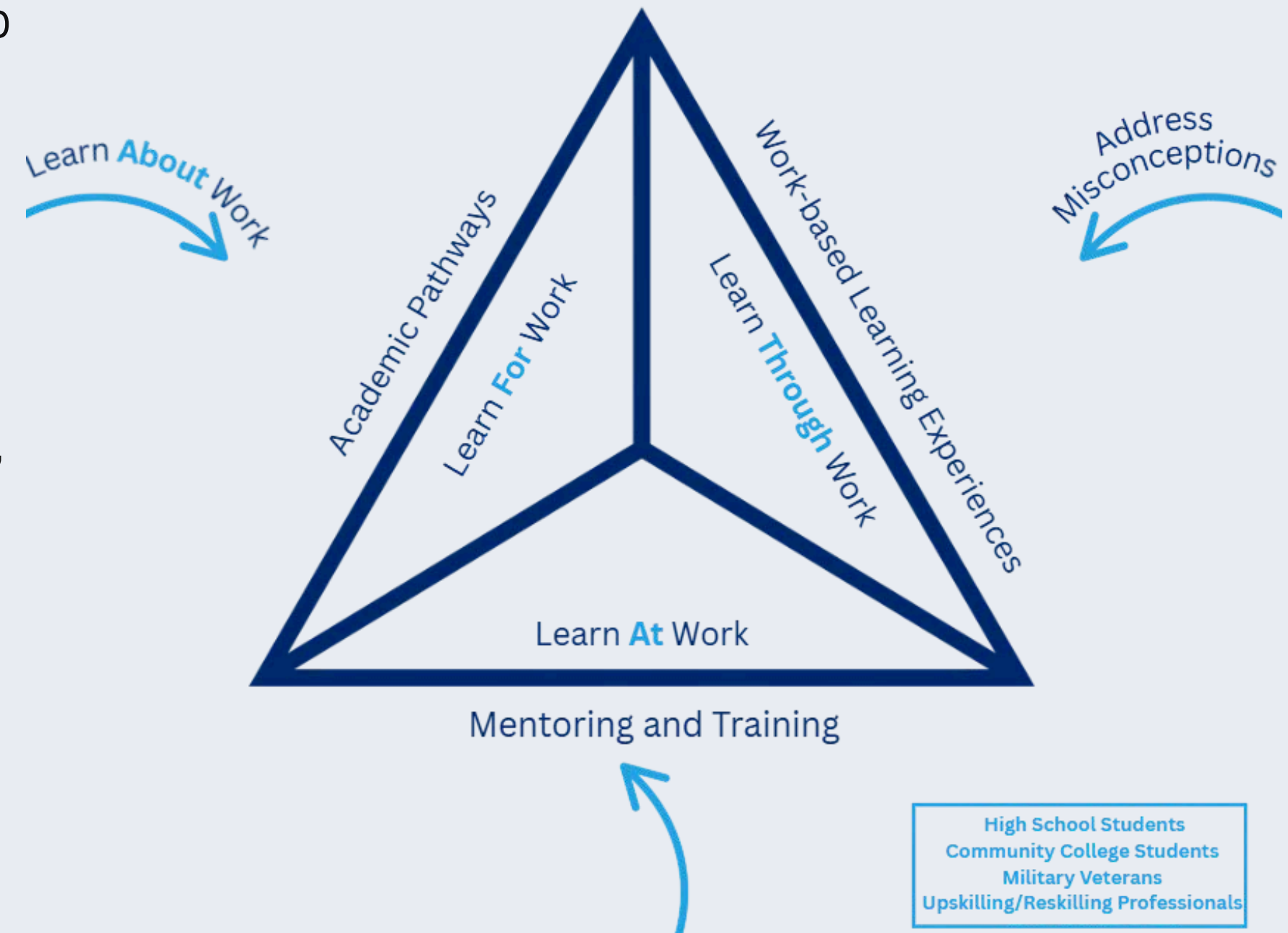
Components of the Aerospace Workforce Development Hub

- Employer Workforce Needs
- Academic Pathways / Certifications
- Internships / Work-based Learning Experiences / Pre-apprenticeships / Apprenticeships
- Addressing Misconceptions Through Aerospace Events, Competitions, and Workshops
- Student Support Services and Mentoring
- Evaluation/Sustainability/Funding Development

Two Annual Full Hub Meetings

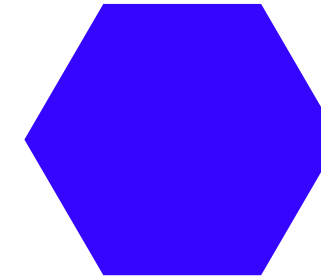
Quarterly Meetings Focused on Specific Component Areas
Break Down Silos, Remain Agile

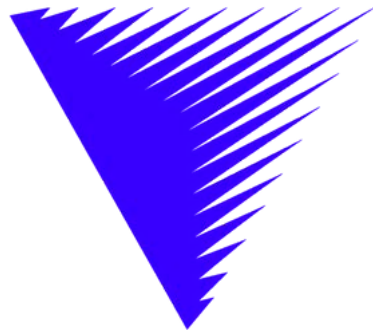
Potential for Co-Chair Component Leads



Commonwealth STEM Industry Internship Program

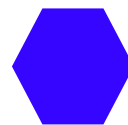
- State funded program supported by the Governor's Office
- Connects Virginia undergraduate students with paid STEM internships with business/industry in Virginia
- No deadlines; year-round support to companies to customize experience and ensure connections to the right interns
- Companies hire and pay students
- Students apply once to reach more than 200 companies across Virginia
- **Subsidies available to companies to offset cost of aerospace/aviation/drone internships**
 - **Up to \$5,000 (50% of placement)**





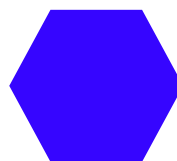
Technology Exploration Saturdays

- Since 2008, impacted **2,886 students** and **2,611 parents**
- Three **FREE** themed events for 75 students in **grades 7-8** and their parents from **Peninsula school districts**
- Topics: mechatronics, creating networks, scribble bots, electrical circuits, automation on the manufacturing floor, unmanned aircraft systems, penny hauling derby, build a robot, STEM careers, financial aid, planning for college
- Partners: Virginia Peninsula Community College, NASA Langley, Canon, Virginia Air and Space Science Center
- **10% of participants go on to take part in our BLAST program**





Building Leaders for Advancing Science and Technology

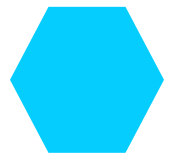
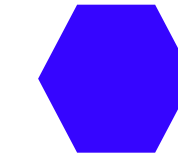


- Engages rising **9th and 10th graders** in fun, problem-based STEM activities to foster curiosity and inspire career exploration.
- Summer residential experience at **ODU, VT, UVA, William & Mary, and Radford**
- 3 STEM-packed days: immersive activities, tours, guest speakers
- Self-assessment to discover and clarify career interests
- Five sessions for 80 students each
- **3,151 participants** since 2013 inception

Virginia Aerospace Science and Technology Scholars

Promotes STEM concepts using a space exploration theme and NASA missions.

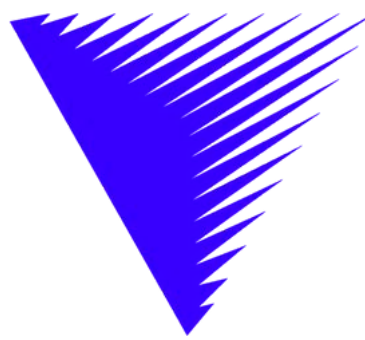
- Virginia **11th and 12th grade** students
- About **7,200 alumni** of online course since program inception in 2008; over 500 students are accepted each year
- About **3,200 summer academy alumni**:
 - 180 students are invited each year to attend one of three summer academies with 60 students in each academy
- **FREE** to students
- Online course runs from December through April with 7 modules and a final project
- Summer academy challenges students to work in collaborative teams to design a human mission to Mars:
 - Students mentored by NASA engineers, scientists, and technologists
- Partners: Sierra Lobo, Lockheed Martin, Boeing, VASBA, NIA, SAME



Virginia Earth System Science Scholars

- Students develop an understanding of the Earth's responses to both natural and man-made changes to climate, weather, and natural hazards
- **11th – 12th grade** students
- 2.7 GPA; 3.0 GPA for Dual Enrollment Credit
- Online course from December through April – 200 students
- Residential academy at NASA Langley Research Center:
 - 96 students are invited to attend one of two summer academies with 48 students per academy
- Students receive up to 5 transferable college credits
- Focus on the 2017 National Academies Decadal Survey:
 - Hydrosphere - sea level change
 - Biosphere - habitat shifting (ecosystem changes)
 - Lithosphere - ground subsidence (surface dynamics)
 - Atmosphere - clouds/precipitation (improving weather and air quality)
 - Cryosphere - snow, ice, glaciers, permafrost
- NASA's 2018 Strategic Plan:
 - Discover, Explore, Develop, and Enable.
- About **1,500 students** to date
- Partners: Hampton University, SAME, VASBA





Virginia Pathways Flight Academies

- High school students who want to be pilots.
- Ground school and flight training, including their first solo flight and 15 flight hours
- 20 high school students each year
- 12-day residential program in partnership with Flight Schools:
 - Rick Aviation (Newport News)
 - Averett University (Danville)
- Funding from Commonwealth of Virginia and Howmet Aerospace Foundation
- **149** students to date

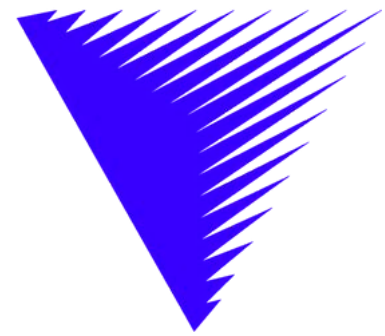


Private Pilot Ground School



- Private Pilot Ground School is a FREE online program for students with a strong interest in pursuing their private pilot's license
- 60 hours of hybrid coursework, including synchronous instructional hours and asynchronous readings and assignments
- Live lecture sessions will take place on Tuesdays and Thursdays from 6 p.m. to 8 p.m.
- Students who successfully complete the program will receive a certificate of completion and receive the instructor's signature on their application for a Private Pilot's License when they are ready to apply.
- VSGC plans to offer the course to up to 50 students in February and March 2026.
- Apply now: <https://vsgc.odu.edu/private-pilot-ground-school>

Middle Grades Career and Technical Education



- A space-themed middle grades CTE professional development program offered in partnership with Old Dominion University
- 15 teachers from across the state
- \$2000 stipend
- Immersive two-week program at Old Dominion University with engaging activities, lessons plans, tours and speakers
- Tours of NASA Langley Research Center, NASA Wallops Flight Facility and Mid-Atlantic Regional Spaceport
- Short professional development sessions during the academic year

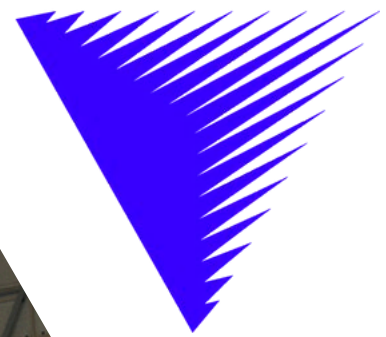


Scholarships and Fellowships

- More than \$9 million awarded to more than 6,500 students
- \$2000 community college scholarship
 - Completed at least 9 credit hours
- \$1,000 STEM Bridge scholarship
 - Sophomore or Junior
- Undergraduate research scholarship
 - Up to \$8,500 for faculty-mentored, NASA-related research
- Graduate Research Fellowship
 - \$6,000 for faculty-mentored, NASA-related research
 - Requires \$6,000 in matching funds from member institution

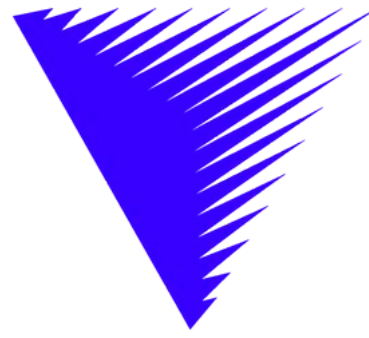


STEM Takes Flight



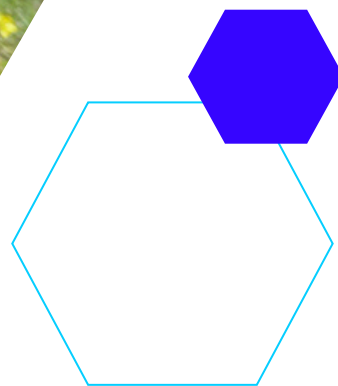
- FREE NASA research experience for students
 - Paid
 - Hands on
 - Engineering software tools, fabrication of aerospace composite models, flight dynamics simulation development, entry, descent, and landing simulation software, unmanned aerial system building and flight testing, test facility support, machine learning, balloon science, and more
 - Open to all Virginia community college students with a STEM major
 - Current and rising sophomores
 - U.S. citizen
 - 18 years old
 - 2.5 GPA
 - At least 6 credit hours
- Faculty 3-day workshop at NASA's Wallops Flight Facility
 - Models importance of teamwork and communications in 21st century workforce skills
 - Helps faculty see how skills are applied in real-world workplace situations



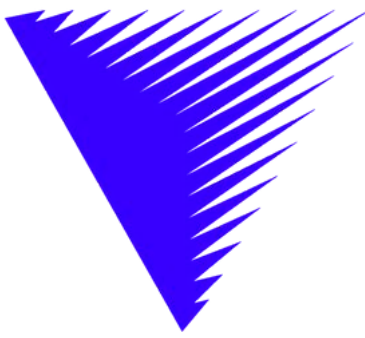


Uncrewed Aerial Systems Projects to Date

- VSGC has led 5 NSF Advanced Technological Education (ATE) awards (2007 – 2024)
 - More than \$3.6M awarded
 - Partnership with Virginia's Community Colleges to build capacity to educate and train the geospatial and small UAS operations technician (sUAS-OT, or drone) workforce
 - Components and deliverables: new course prefix, new UAS and GIS courses, faculty professional development, student outreach, service-learning projects
- Virginia Department for Aging and Rehabilitative Services drone camps
- Aerial Drone Competition at NASA Langley Research Center
Educating the NASA STEM Workforce Pipeline: A 2-year UAS educator professional development cohort including: Part 107 prep, a 4-day institute, an advanced institute, mentoring and support, \$800 stipend, \$2,000 mini-grant



Security+/Network+



- FREE Security+ Exam Preparation Video Series
 - Fourteen one-hour video sessions are available for viewing on-demand to help prepare for the exam.
- FREE Network+ Exam Preparation Video Series
 - Ten one-hour video sessions are available for viewing on-demand to help prepare for the exam.
- Offered in partnership with the Virginia Cyber Range and funded, in part, by the Commonwealth Cyber Initiative
- Virginia students can register separately for access to a large bank of test preparation questions offered by the Virginia Cyber Range.



Commonwealth
Cyber Initiative



VIRGINIA
CYBER RANGE



Here to Help

- VSGC is a FREE resource for you
 - Connection to NASA and other key resources
 - Partnership on proposals
 - Advisement and mentorship
 - Help with aviation and aerospace school





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