College and University students majoring in science, engineering, technology and math (STEM) related fields have a free new resource for summer 2013 internships, as do companies who wish to hire them. The Virginia Space Grant Consortium’s newly established Commonwealth STEM Industry Internship Program (CSIIP) was announced at the Northern Virginia Technology Council Titans of Technology breakfast on September 27 by Secretary of Education, Laura Fornash on behalf of Governor Bob McDonnell.

CSIIP offers a no-cost, centralized, online application system that allows students majoring in STEM fields at accredited Virginia colleges and universities, or Virginia students attending out-of-state accredited colleges and universities, the ability to search and apply for paid, STEM-related summer internships with Virginia companies. Additionally, it provides Virginia companies with free access to a large state-wide pool of qualified students for their summer internship opportunities. Students provide one comprehensive application that can be reviewed by potentially hundreds of companies throughout the state.

With funding from the Commonwealth of Virginia, the Virginia Space Grant Consortium (VSGC) created CSIIP in partnership with Virginia’s regional technology councils. The regional technology councils throughout Virginia are serving as the programs’ conduit to member companies who will register and post internships at the CSIIP online site Career Services offices at Virginia’s colleges and community colleges are collaborating with the VSGC to make students aware of CSIIP. The Virginia Manufacturers Association’s Dream It, Do It® Virginia network is also collaborating to spread the word on the program.

VSGC Director Mary Sandy notes, "CSIIP is a major step to help Virginia companies address their pressing need for STEM workers. Internships are an excellent way for students to do early work in their fields and a great way for companies to try out young talent for potential future employment. Students frequently tell us how challenging it is to learn about internships and to apply for them, and companies tell us that securing a diverse pool of qualified applications can be difficult as well. We hope that CSIIP can facilitate making these workforce connections."

Companies doing business in Virginia can register and list internships at the CSIIP online site right now and are encouraged to do so before Oct. 31. The application process will be opened to students on Nov. 1, 2012. Student applications are due on Jan. 31, 2013 and the application database will be opened to participating companies on Feb. 11, 2013.

www.csiip.spacegrant.org

“*A good education is the key to a good job. The Commonwealth STEM Industry Internship Program will help to prepare our students for the high-quality, high-paying jobs of the future. By better aligning higher education and the business sector, we are working to give every Virginia graduate a path to success. We must continue to develop the pipeline between Virginia’s excellent community colleges and universities and the business sector. This program, and programs like it, will enable more Virginia students to engage and learn the much-needed skills that so many careers of the 21st century require.”* —Governor Bob McDonnell
The Director’s Message

We are excited to feature our new Commonwealth STEM Industry Internship Program (CSIIP) which was recently announced by Governor Bob McDonnell. This dynamic program offers a one-stop, free, centralized, online application system that provides undergraduate STEM majors the ability to search and apply for STEM related summer internships.

As you will see with this newsletter, it has been an extremely busy and rewarding summer at the Virginia Space Grant Consortium with many innovative programs for students and teachers. Through the programs we manage in partnership with NASA Langley Research Center and NIA, some 180 undergraduate, graduate and select high school students interned this summer in the Langley Aerospace Research Student Scholars (LARSS) program. In addition, 144 Virginia high school juniors attended one of three, week-long Virginia Aerospace Science and Technology Scholars (VASTS) summer academies at NASA Langley. The Commonwealth of Virginia and industry are also partners in VASTS.

A statewide integrated STEM project, Virginia STEM CoNNECT supported by the Virginia Department of Education, provided professional development support for 23 science and math teachers in June. Programs like RockOnl and the FAA Design Competition engaged undergraduate and graduate students, and faculty as well, in real world projects this summer.

The 2012-2014 state biennial budget funded not only the Commonwealth STEM Industry Internship Program (CSIIP), but two other new initiatives. The Virginia Space Coast Scholars program is a VSGC partnership with NASA Wallops Flight Facility, the Mid-Atlantic Regional Spaceport and the Commonwealth of Virginia. This program will be open to high school sophomores statewide and will introduce students to space-based missions through an online course and a residential summer academy opportunity (see page 3).

Also funded was the Building Leaders for Advancing Science and Technology (BLAST), a three-day residential summer program for 2013 at the University of Virginia. Designed to spark interest in STEM, BLAST will provide hands-on experiences through faculty-led activities and demonstrations.

Mary Sandy

Mary Sandy (L), accepted a NASA Group Achievement Award at Wallops Flight Facility (WFF) for the Consortium’s role in RockOnl, a student sounding rocket flight program in partnership with the Colorado Space Grant Consortium and NASA Wallops. The award cited, “exceptional achievement in implementing suborbital student flight opportunities to recruit the next generation of scientists and engineers.” The award was presented by Joyce Winterton, Senior Advisor for Education and Leadership Development at WFF (see page 5).

An excited Simone Hayter-Adams, with President Barack Obama during his recent visit to Norfolk State University. Simone, a VSGC STEM Bridge scholarship recipient, is a junior at Hampton University majoring in Physics.
VSGC Receives NSF Award for Geospatial Education

VSGC recently received a $899,870 award from the National Science Foundation (NSF) to fund the Expanding Geospatial Technician Education Through Virginia’s Community Colleges (EGTEVCC) program. This program will create academic pathways to employment for GIS technicians at partnering community colleges that can serve as models for other colleges. The new program will build on the successful work of the team during the previous NSF-ATE funded Geospatial Technician Education Through Virginia’s Community Colleges (GTEVCC) program to provide employers with more skilled technicians in geospatial technology (GIS).

The project team will help community colleges to increase geospatial courses and pathways, provide professional development for faculty, and increase and diversify the future geospatial technology workforce. EGTEVCC will also expand outreach and training to support faculty in the five-state region. Curriculum will be based on data collected from employers through an extensive workforce-needs survey and analysis.

Program partners include: the Virginia Community College System (VCCS); J. Sargent Reynolds Community College (JSRCC); Southwest Virginia Community College (SWCC); Thomas Nelson Community College (TNCC); Virginia Western Community College (VWCC); Virginia Geospatial Extension Program (VGEP) at Virginia Tech and the Virginia Association of Mapping and Land Information Systems (VAMLIS).


New Virginia Space Coast Scholars Program Targets High School Sophomores

A new initiative funded through the Commonwealth’s biennial budget is the Virginia Space Coast Scholars (VSCS) program, which is a partnership between the Virginia Space Grant Consortium, NASA Wallops Flight Facility, and the Mid-Atlantic Regional Spaceport. VSCS is a dynamic, informal online learning experience highlighted by a seven-day residential summer academy at NASA Wallops Flight Facility for qualifying students. With a focus on scientific exploration, students will be introduced to the science, engineering, and technology concepts that are integral to earth and space-based missions launched or conducted from Virginia’s Space Coast on the Eastern Shore.

Building on the excitement around scientific exploration missions conducted or launched from NASA Wallops Flight Facility and the Mid-Atlantic Regional Spaceport, the VSCS program is designed to inspire high school sophomores that possess technical or scientific interests to participate. During the seven-day summer academy, the students will design, construct, and fly an experimental payload.

www.vscs.spacegrant.org

Exciting Opportunities for Students In Two New FAA Design Challenge Areas

Students have two new exciting opportunities to showcase their skills in the 2012-2013 FAA Design Competition for Universities. First, a mobile application for use with smart phones and tablets will provide students an opportunity to exhibit creativity and innovation in designing commercially viable applications using FAA, industry, travel and other open source data. With this Innovative Application of FAA Data challenge, the intent is to make data about the National Airspace System (NAS) available to the public and to promote a transparent view of aviation information.

Another new area is the Electric/Hybrid-Electric Aircraft Technology that challenges students to design a regional transport aircraft that will use electric or hybrid electric propulsion and to consider the impact on airports. This challenge, which is the first aircraft design challenge for FAA, focuses on aircraft design, impacts on airport infrastructure and assessments of environment and energy benefits.

The FAA Design Competition is open to teams or individuals from accredited U.S. colleges and universities who are working with a faculty advisor.

In addition to these new challenges, the Competition offers many additional technical design challenges that are outlined on the website along with the program guidelines. The Competition, now in its seventh year, is managed for FAA by the Virginia Space Grant Consortium.

FAADesignCompetition.odu.edu
Student Program Highlights

Virginia Aerospace Science and Technology Scholars

VASTS is a NASA-based STEM program for high school juniors in Virginia with a semester-long online course and a residential summer academy component at NASA Langley Research Center.

The Virginia Aerospace Science and Technology Scholars (VASTS) Summer Academies were held in June and July at NASA Langley Research Center with 144 high school juniors participating in one of three, week long events. Scholars were under the guidance and direction of VASTS master teachers and NASA scientists and engineers. Tours, lectures and hands-on activities helped motivate and inspire the scholars in science, technology, engineering and math (STEM)-reinforced activities. For information on the 2012-2013 program, visit www.vasts.spacegrant.org

NASA Langley Aerospace Research Student Scholars

The Langley Aerospace Research Student Scholars (LARSS) program is a year-round internship program for undergraduate, graduate and select high school students. LARSS is designed to bridge the gap between academic concepts and real-world experience by creating opportunities for students to conduct research and work on projects under the mentorship of NASA professionals. www.nianet.org/larss

GearUp at Hampton University

GearUp students, who have been tracked since middle school, are now in high school at Hampton and Phoebus as part of a U.S. Department of Education grant to determine the impact of STEM activities on future academic plans. VSGC partners with Hampton City Schools to conduct four STEM Saturday workshops throughout the year, plus a STEM Summer Academy as shown here.

A total of 180 LARSS interns participated at NASA Langley this summer.

Students get a safety briefing prior to an outing on the Hampton River for a marine science activity.

Logan Herrick,
Rochester Institute of Technology.
Working in the Engineering Directorate

Kristian Liwanag,
University of Portland.
Working in the Materials and Processing Branch

A global geography activity provides a team building exercise for students.
In partnership with the University of Virginia (UVA), and with funding from the Commonwealth, Virginia Space Grant Consortium (VSGC) will pilot a transformative, on-campus summer STEM experience in July of 2013. The Building Leaders for Advancing Science and Technology (BLAST) program will provide hands-on experiences for high school students which can have a positive influence on career choices early enough in their education to influence the coursework they choose in preparation for college education. BLAST will feature a three-day residential experience at UVA and will target rising high school freshmen and sophomore students who have an underlying aptitude for STEM academics, but have not yet discovered the excitement of STEM. Through carefully developed activities taught by UVA faculty members, students will explore STEM fields, rapidly moving from a basic topic introduction to an immediate personal application of newly learned principles and knowledge.

www.blast.spacegrant.org

On June 21, the RockOn! program payload had a successful launch at NASA Wallops Flight Facility (WFF). Teams of faculty and students from universities across the country gathered at WFF for a workshop four days prior to the launch to build the scientific payload. RockOn! is an annual workshop sponsored by the Colorado Space Grant Consortium in partnership with the Virginia Space Grant Consortium.

Each experiment provides valuable scientific data, analyzed as part of the student-led science and engineering research. Since the inception of the program in 2008, 192 faculty and students have participated in RockOn!. As a result of RockOn!, 33 colleges have integrated sounding rocket flight programs into their curriculum.

spacegrant.colorado.edu/rockon/

The Federal Aviation Administration (FAA) recently selected winners for its sixth annual Design Competition for Universities. Winning teams include Embry-Riddle Aeronautical University Daytona Beach, Stevens Institute of Technology, Binghamton University - State University of New York and the Ohio State University. Winners are shown here with FAA officials Joseph Teixeira, Vice President for Safety and Technical Training Air Traffic Organization, and Christa Fornarotto, Associate Administrator for Airports.

www.vsgc.odu.edu