Scholarships Provided to 94 Higher Education Students in Virginia

For the 2010-2011 academic year, the Virginia Space Grant Consortium (VSGC) has awarded $327,450 in scholarships and fellowships to ninety-four students pursuing higher education at Virginia Space Grant Universities and Community Colleges.

Students majoring in science, technology, engineering, and math (STEM) and other fields of study related to aerospace were eligible to apply. The students were selected by a committee of Consortium representatives for awards based on their academic merit, academic potential, and letters of reference. Students submitting proposals for awards to support aerospace-related research were also judged on the quality of the research and relationship to NASA’s mission.

"The VSGC Scholarship and Fellowship program is a very competitive program, and we continue to be impressed by the quality and intellectual merit of the research projects proposed by the students. We are very excited to be providing these ninety-four students with funding that directly impacts their ability to pursue their academic and research interests. We are particularly excited about the Undergraduate STEM Bridge Scholarship which will assist undergraduate students in investigating their research interests and identifying research opportunities," stated Chris Carter, VSGC Deputy Director and coordinator of the VSGC Scholarship and Fellowship program.

VSGC awarded $200,000 in Graduate Research Fellowships to 40 students; $82,450 in Undergraduate Research Scholarships to 13 students; $9,000 in Teacher Education Scholarships to 9 students; $13,500 in Community College Scholarships to 9 students; and $22,500 to 23 freshman and sophomore students for the Stem Bridge program. Twenty two students

Since the inception of the program in 1990, the Virginia Space Grant Consortium has awarded more than $4.6 million dollars in scholarships and fellowships to 1,070 students.

Continued on Page 2
The Director’s Corner

I am pleased to report that Virginia Space Grant Consortium has received a new five-year Space Grant award from NASA effective August 31, 2010. This will allow us to continue to serve the Commonwealth and NASA in support of STEM and aerospace education, research and workforce development. For the 2009 – 2010 Space Grant Year VSGC leveraged each Space Grant dollar awards with $5.46 in funding from other partners and sources. We look forward to continuing our strong current partnerships and to forming new collaborations, as well, over the next 5 years.

On February 2 -3, VSGC was an active participant in Aerospace Day at the Virginia General Assembly. This was the sixth year of this event which gathers members of Virginia’s entire Aerospace Sector for meetings and dialog with Virginia policy and law makers. Aerospace – A high tech engine propelling Virginia’s economy and creating high tech jobs was the theme for this year’s event, which highlighted the strength of Virginia’s aerospace sector with two NASA Centers, the MidAtlantic Regional Spaceport (one of 4 nationally capable of launching rockets to orbit), 66 airports, 316 aerospace firms and $19.5 billion in combined aerospace and aviation economic impact. VSGC was recognized as a robust organization promoting science and engineering education, workforce development and research. I was pleased to serve on the planning committee for the event. Students from two VSGC programs—VASTS and Langley Aerospace Research Scholars -- participated in an AeroSpace Student Showcase for legislators. A key message for this year’s Aerospace Day was to request support for a Budget Amendment to provide State matching funds for the Virginia Aerospace Science and Technology Scholars (VASTS) program.

On a final note, VSGC, in its support of NASA Global Climate Change Education program, coordinated proposal workshops for the newest NASA funding solicitation for this program (see page 6). We engaged 11 other Space Grant Consortia across the nation to serve as sites for the part webcast/part site-based programs and to market the program to their networks. The workshops were intended to provide information on the solicitation and the NASA online submission process. Site participants also had the opportunity to talk to current project principal investigators, learn tips on how to write successful proposals, and to network to form partnerships for proposal submission. Our Space Grant colleagues did a wonderful job and it was great to work with our Space Grant family. Over 300 individuals participated at sites and 800 through the webcast only option.

Award

Continued from Page 1

were awarded $1,000 for both semesters and one student was awarded $500 for a single semester.

Space Grant Research Scholars and Fellows must be engaged in an identified research project with a faculty advisor as part of their academic program. Students receiving awards present their research findings at an annual student research conference in the spring semester. VSGC Freshman STEM Scholars will be required to attend the annual Student Research Conference on April 18, 2011 to network with students and faculty.

For more information on VSGC Scholarship and Fellowship Awards, contact Chris Carter, Deputy Director, Virginia Space Grant Consortium, 757/766-5210/cxcarter@odu.edu
Interplanetary navigation of spacecraft is a central NASA mission. At present, the NASA Deep Space Network (DSN) uses two-way Doppler data for deep space navigation of spacecraft. The navigation information is derived in part from the Doppler frequency shift of a two-way signal connection from the ground station to the spacecraft and the coherent return signal. The roundtrip signal connection requires full use of at least one dedicated DSN antenna for approximately seven to eight hours. Furthermore, only one spacecraft per antenna can be tracked at once, thus limiting the number of spacecraft that can be monitored.

However, a spacecraft with a high quality time base, such as an atomic clock, with a stability of one part per trillion or better over at least one day would allow for one-way deep space navigation. In this mode, the spacecraft emits a signal, whose Doppler shift can be determined by the ground station due to the inherent high stability and confidence of the spacecraft oscillator. In this mode of operation, a single DSN antenna can track multiple such spacecraft orbiting a same planet. Two widely spaced antennas are necessary for angular position measurements. A compact, high stability atomic clock for spacecraft would significantly reduce DSN antenna usage and associated costs.

A VSGC New Investigator Program grant is funding my research group to develop a proof-of-principle atomic clock that could eventually lead to such a deep space navigation application. Our atomic clock apparatus is based on trapped ultracold potassium atoms at a few micro-Kelvin above absolute zero.

Our method offers the prospect of attaining a clock stability in the range of one part per trillion to one part per 100 trillion, possibly better, and that could then be engineered into a relatively compact package. A novel aspect of our work is the use of fermion atoms, which have the remarkable quantum-mechanical property that they do not interact with each other at ultracold temperatures.

Unfortunately, inter-atom interactions can lead to detrimental drifts in atomic clock frequency, so the use of fermion atoms ensures the stability and high accuracy of our clock. Furthermore, these fermion atomic clocks are also the first step in producing high sensitivity sensors for measuring gravity gradients and magnetic gradients. These quantities can be useful for space-based mapping of gravitational and magnetic fields of Earth and other planets.

For more information on the New Investigator Program, contact John Companion (jcompanion@odu.edu or Brenda Neil (bneil@odu.edu)
Having participated in the Virginia Aerospace Science and Technology Scholars (VASTS) and the Langley Aerospace Research Summer Scholars (LARSS), Lindsay Honaker, who is a current freshman at Virginia Tech, is already well on her way as a NASA pipeline success story. During her junior and rising senior year of high school, she participated in the VASTS semester long distance-learning course. After successfully completing the course, Lindsay subsequently attended the residential Summer Academy at NASA Langley Research Center. As a successful VASTS Scholar she went on to apply, and was accepted, to the Langley Aerospace Research Summer Scholars (LARSS) program where she interned during Summer 2010.

Following are excerpts from a presentation Lindsay gave to NASA and industry sponsors at a luncheon hosted by Langley Center Director, Lesa Roe.

"Through every experience, I’ve been able to learn and soak up information like a sponge; information that has helped me to excel in the experiences that have followed."

I really appreciate the doors that have been opened to me as a direct result of VASTS. The program has given me a greater knowledge of the background and purpose of NASA, as well as a greater awareness of where I’ve been, where I am, and where I’m going. I feel that because of VASTS, I am able to approach and surpass any goal with level-headed confidence."

“As a LARSS student this summer, I am working in the Ground Facilities and Testing Directorate on a handful of projects. I’m particularly interested in metrology and out-of-tolerance equipment. I can honestly say that NASA Langley Research Center, in its entirety, awakens an excitement within me that is much greater than any high school pep rally. I am able to gather strength from knowing that here at Langley, everyone is able to work together, pursuing common goals and cultivating a legend that I hope to be a big part of someday soon."

“I truly have a passion for this magical place and the people here. It brings me joy to see that passion in the eyes of every person I meet. I can tell that it thrills them to speak with me and see that I feel the same way they do. I feel very blessed for each and every day that I am able to spend here, and I anticipate a fulfilling future at NASA Langley Research Center. I owe my thanks to the Virginia Aerospace Science and Technology Scholars Program for helping me to get here.”

The Virginia Space Grant Consortium (VSGC) and Old Dominion University (ODU) Engineering Technology Department has designed the Safety-Enhanced, All-Terrain Exploration Vehicle (SEAT-EV), funded through Phase 1 of the Robert Steckler/Space Grant Space Colonization Research and Technology Development Opportunity. The SEAT-EV is intended to fill a role for the NASA Exploration Mission Directorate by providing a comfortable, efficient work environment in a vehicle that will carry out scientifically effective research. It is designed to be a long term workhorse, powered by a Radioisotope Sterling Generator and is repairable and maintainable on site. Phase 1 engaged six ODU faculty members and 17 students, with VSGC guidance.

In November 2010, members of the VSGC-ODU Steckler Team, including two students, traveled to Houston for a forum, where all 18 Steckler projects from around the country were presented to the group and to NASA representatives from Johnson Space Flight Center. During the three-day forum, each team outlined their project, the progress made during Phase 1 and the relevance to NASA goals and objectives. The projects presented were highly diverse, ranging from early warning systems for solar storms for Martian colonists, to green houses for farming on the moon, to nuclear power plants for a lunar colony. The VSGC-ODU Safety-Enhanced, All-Terrain, Exploration Vehicle (SEAT-EV) was the only proposal that directly addressed scientific exploration on Lunar or Martian surfaces and received favorable comment from NASA personnel and other participants attending the forum.

The SEAT-EV is designed to gather samples on extraterrestrial surfaces, and is a cost effective and flexible design to meet the requirements for different terrains and missions. The vehicle is designed for a single occupant to be able to perform all needed functions, both work and personal, for at least 24 hours, with greater protection from the space environment than other designs. VSGC and ODU have proposed for Phase II of the project and anticipate a decision later this month.
Graduate Student Spotlight

Maryse Leandre
Hampton University
In Her Own Words

I would like to acknowledge my VSGC fellowship. With the additional support afforded to me through this fellowship I have the opportunity to travel to outside laboratories where I am perfecting my skill in the current molecular techniques that are necessary to conduct my research. Results are presently being compiled and I look forward to presenting them in April at the Virginia Space Grant Student Research Conference and Luncheon.

I am a NOAA Living Marine Resources Cooperative Sciences Center (LMRCSC) scholar, a member of the American Society for Limnologists and Oceanographers (ASLO) and the proud recipient of the 2010-2011 Virginia Space Grant Consortium (VSGC) Fellowship. I have a B.S. degree in Biology with a minor in Chemistry, and am currently pursuing my M.S. degree in Biology with an Environmental Science concentration at Hampton University.

My research interests are focused on the changes that occur within the bacterial community over the stage of tunicate decomposition. I am integrating my molecular background with marine biology and microbial ecology to provide information on the ecological role bacteria play in the degradation of Molgula manhattensis, a benthic tunicate, and Dolioletta gegenbauri, a pelagic tunicate. My goal is to contribute insight into the study of sudden bloom declines of both species. This research will incorporate laboratory and culture-independent based techniques such as DAPI (4’,6-diamidino-2-phenylindole) counts, Fluorescent In-Situ Hybridization (FISH), Polymerase Chain Reactions (PCR), DNA extractions, Cloning and Sequencing.

Tunicates are gelatinous zooplankton which consume phytoplankton. Phytoplankton grow abundantly in the oceans and are the foundation of the marine food chain. When phytoplankton bloom in large numbers they have the ability to change the color of the ocean, and be harmful to aquatic life.

The color changes can be measured from space using NASA’s ocean color monitoring program Sea-viewing Wide Field-of-view Sensor (SeaWiFS). The mission of SeaWiFS, an element of NASA’s Earth Science Enterprise, is to look at the planet from space and thereby provide information about the behavior and evolution of the system. Another way to study the ocean’s color is through NASA’s Moderate Resolution Imaging Spectroradiometer (MODIS), a key instrument aboard the Terra (EOS AM) and Aqua (EOS PM) satellites orbiting Earth.

The data collected from this instrument can provide global information on the processes that occur on land, in the atmosphere and in the ocean. This instrument can also be used to detect plankton blooms from space.

Middle School Teacher Expresses Benefits of LiftOff Experience

Words can barely express my gratitude to the Virginia Space Grant Consortium for sending me to the 2010 LiftOff program in Houston this past summer. I learned so very much, and continue to derive meaning from the materials and presentations as I use them day-to-day for instruction and peer collaboration.

Before leaving for LiftOff, my enthusiasm for the upcoming opportunity was featured in a Roanoke Times Botetourt View article. Since returning from LiftOff, news of my experiences has again been published in the Roanoke Times. Tomorrow, I present to the entire faculty at my modestly sized middle school. It is one of two in Botetourt County, and I have already been invited to share at the other middle school, as well.

Thank you, again, for the Consortium’s generosity and support of education at the K-12 level! I will continue to put to good use all that I learned and acquired.

Sincerely,

Wendy Grimshaw
Middle School Teacher
Botetourt County Public Schools
In anticipation of the January release of NASA’s new solicitation for climate change education projects, VSGC coordinated 12 workshops across the country in December to familiarize potential funding seekers with the process of submitting a proposal. The sites also provided a place where parties could come together with the purpose of networking and creating project partners with interests in climate change education.

The solicitation for Innovations in Global Climate Change Education (IGCCE) is one of a cadre of requests for proposals under the umbrella of Education Opportunities in NASA STEM (EONS) (NNH11ZHA002C-IGCCE). For 2011, IGCCE will accept proposals from community colleges, minority serving institutions and school systems or non-profit organizations that serve minority populations. Notices of intent are requested (but not required) by February 3rd and full proposals are due March 18, 2011.

The IGCCE workshops were held in Virginia, Montana, California, Puerto Rico, Texas, Minnesota, New York, North Carolina, Mississippi, Florida, Illinois and Georgia and hosted by each state’s Space Grant Consortium. More than 300 participants travelled to the sites in the hopes of finding partners for the upcoming proposal. Activities included webcasts from NASA Langley Research Center with information specifics on the solicitation from Program Scientist, Dr. Lin Chambers, as well as presentations on proposal writing, navigating through the NSPIRES system and opportunities for networking. Each site also had live presentations from current IGCCE projects. More than 800 others participated online on the webcast.

Many participants were new to proposal writing but a number were experienced proposers to NASA, NSF, and NOAA Earth Science and education opportunities. California Space Grant Consortium reported, “An important role for the California Space Grant is to provide facilitation services for partnerships. This workshop enabled Space Grant to be recognized as an important element in NASA-related partnerships for research and education”.

Brendan Gannon, Program Coordinator for the Florida Space Grant Consortium said, “The coordination between many people across the country in tandem with advice and information from NASA is a concept that has unlimited potential. It became evident even before the second webcast that some solid connections [among participants] were being made.”

Comments about the experience from participants were overwhelmingly positive,

“I wanted to thank you and the Georgia Space Grant Consortium for hosting the IGCCE Workshop. It was so well organized and the facilities were extraordinary. In addition to the information concerning the CAN, it was a remarkably excellent way to network. We thoroughly enjoyed meeting the participants and are looking forward to following through.” and “I believe that workshops such as these can achieve great things.”

VSGC was recently awarded a $48,750 planning grant through the NASA K-12 Summer of Innovation (SOI) Capacity Building program. Project partners include: Thomas Nelson Community College, John Tyler Community College, Eastern Shore Community College, Tidewater Community College, NASA Langley Research Center, and NASA Wallops Flight Facility. The project team developed a plan, building on the successful STEM Exploratory Saturdays model provided through the GAITE program, to offer STEM-themed Exploratory Saturdays and a summer camp in the service region of each community college partner. These events are designed to motivate and encourage middle school students, especially students from underserved/underrepresented populations, to explore careers in STEM and to raise student and parent awareness of the academic pathways to pursue STEM careers. Proposed content themes include: “Designing the Future,” “Connecting the Future,” “Automating the Future,” and “Sustaining the Future.” These sessions will provide students with interactive minds-on and hands-on sessions led by working engineers, technologists, and STEM educators from NASA, higher education and industry to expose students to STEM careers. Information about STEM careers and academic pathways will be presented to parents by VSGCt, NASA, industry, community college and higher education partners. VSGC will be submitting the final plan to NASA in mid-February and hopes to hear soon about next steps.
Virginia Space Grant Consortium (VSGC), the Virginia Geospatial Extension Program at Virginia Tech, the Virginia Community College System (VCCS), and three community colleges (John Tyler Community College, Tidewater Community College and Virginia Western Community College) have developed a geospatial web portal that will help train the future generation of geospatial technicians in Virginia (http://www.vccsgis.org).

These organizations are partners in the Geospatial Technician Education Through Virginia’s Community Colleges (GTEVCC) project that is funded by the National Science Foundation’s Advanced Technological Education (NSF-ATE DUE-0903270) program. The goal of the GTEVCC project is to develop academic pathways in geospatial technology at three community colleges that will serve as models for all colleges in the VCCS. Other components of the GTEVCC include educational materials development, adaptation, and implementation, and professional development and mentoring for faculty and high school teachers.

The curriculum and certificate programs developed through the project are being driven by the needs of business and industry in the commonwealth. Geospatial technology is a broad term referring to geographical information systems (GIS), global positioning systems (GPS), and remote sensing, and the emerging technologies and applications that support the collection, analysis, and interpretation of spatial data. This rapidly growing field, however, is limited by the number of trained geospatial technicians.

The VCCS Geospatial Portal will support the system’s efforts to train geospatial technicians to meet industry demand for skilled workers. This website, which is a repository for geospatial technology pathway models, curriculum, professional development materials, and other resources, serves as a gateway for VCCS faculty and students and others interested in supporting the development of a geospatially literate workforce in Virginia.

The VCCS Geospatial Portal is closely affiliated with the NSF-funded National GeoTech Center based in Corpus Christi, Texas. It was developed by Blacksburg Electronic Village using Drupal, an open-source content management system.

“The VCCS Geospatial Portal will help the community colleges market their geographic information systems courses and work more efficiently together, and will provide students with immediate access to geospatial courses, certificate programs, and other academic options available through VCCS member institutions,” explained John McGee, associate professor and geospatial extension specialist in Virginia Tech’s Department of Forest Resources and Environmental Conservation.

David Webb, associate professor at Virginia Western Community College, added, “The geospatial portal will serve as a clearinghouse of information and support the dissemination of geospatial educational resources among community college faculty at each of the VCCS member campuses.”

For more information on the GTEVCC project, contact Chris Carter, Deputy Director, Virginia Space Grant Consortium, 757/766-5210/cxcarter@odu.edu
Binghamton (SUNY) Students Win FAA Competition

The Computer Science Department at Binghamton University-State University of New York captured first place honors for the Airport Operation and Maintenance challenge during the 2009 National FAA Design Competition. VSGC has managed the annual competition for the past four years for FAA.

The winning proposal entitled, "Radiant Heating of Airport Aprons," featured the removal of snow and ice from airport pavement by using sustainable geothermal technology to warm the pavement surface. Practical and environmentally sensitive, the concept caught the attention of the FAA and the aviation industry after it took first place in the competition’s operation and maintenance category. Discussions began almost immediately with local officials regarding FAA interest in funding a prototype to make the concept a reality.

Through collaboration between Binghamton University, the Southern Tier Economic Partnership (STEP) and other local organizations, STEP – a countywide economic development organization – has been awarded a $374,000 grant from the Federal Aviation Administration (FAA) Research Grant program to fund phase I of a $1.4 million project at the Greater Binghamton Airport. “As an organization dedicated to partnerships that improve our community, STEP views this as an excellent opportunity to work with local officials and students on a research project that could have significant benefit for the future,” said Richard D’Attilio, executive director of the Industrial Development Agency and STEP. “We look forward to seeing the results of the project.”

The student team was led by Binghamton University Associate Professor William Ziegler, and advised by Broome County Commissioner of Aviation Carl Beardsley and Chad Nixon, vice president of McFarland-Johnson, Inc. “This project began as a classroom exercise and has turned into a once-in-a-lifetime partnership between the students of Binghamton University and a number of local government and economic development entities. For our students to see their project come to fruition as a construction project that could benefit the entire aviation industry is truly astounding and I am certainly proud to be part of the experience,” Ziegler said.

FAA Design Competition Currently Underway

The FAA Design Competition for 2010-2011 is well underway. Managed by the Virginia Space Grant Consortium under a grant from the FAA, the Competition is part of the FAA’s mission to improve the safety, capacity and efficiency of the nation’s airports. Design submissions are accepted from November 1, 2010 through April 15, 2011.

Individual students or teams of students (undergraduates and graduates) from U.S. Colleges and universities working under the mentorship of a faculty advisor are encouraged to submit proposals to address challenges in four broad areas: Airport Operations and Maintenance, Runway Safety/Runway Incursions, Airport Management and Planning and Airport Environmental Interactions. Students must have a faculty advisor in order to submit a proposal. Cash prizes are given to first, second and third place winners in each category and awards will be presented at an awards ceremony this summer.

FAA intends the Competition Design Challenge to provide a meaningful educational experience for individual students or students working in teams either as a part of a class assignment, independent study or a project undertaken by a student professional society.

http://FAADesignCompetition.odu.edu
For more information on FAA Design Competition contact Debbie Ross, Program Specialist dross@odu.edu or 757-766-5210
Tyler Aarons is a Master’s candidate at Virginia Tech. His research investigates aeroelastic scaled flight testing of a joined wing sensor craft configuration.

Kristin Busa is a Ph. D. candidate at the University of Virginia. She is developing a turnable diode laser absorption tomography technique for investigations of scramjet propulsion systems.

Lauren Butt is a Master’s candidate at Virginia Tech. Her research explores flutter suppression for near-space and other applications in ultra-large aspect-ratio wings.

Erin Crede is a Ph. D. candidate at Virginia Tech. Her research analyzes increasing domestic student participation in engineering graduate programs.

Christina Johnson is a Master’s candidate at the University of Virginia. She is researching the application of thermosyphon technology for aircraft thermal management.

Maryse Leandre is a Master’s candidate at Hampton University. She is researching bacterial community changes in tunicate decomposition.

Judith Providence is a Ph. D. candidate at the College of William and Mary. Her research examines execution trace analysis for the software development of safety-critical systems.

Erin Reed is a Ph. D. candidate at the University of Virginia. Her research involves using laser planar induced iodine fluorescence to investigate interactions of the reaction control system jets with a Mars science lander aeroshell.

Jonathan Skuza is a Ph. D. candidate at The College of William and Mary. His research involves the development of novel magneto-plamonic sensors of interest in space applications.

Scott Tedesco is a Master’s candidate at Old Dominion University. His research analyzes model verification and validation for multibody dynamics and impact testing.

Alex Villanueva is a Ph. D. candidate at Virginia Tech. His research topic is biomimetic robotics.

Elizabeth Voight is a Ph. D. candidate at Virginia Tech. Her research analyzes particle image velocimetry measurements of a bioreactor flow loop for drug delivery optimization.

Lisa Walker is a Ph. D. candidate at the University of Virginia. Her research investigates the impact of the compact group environment on galaxy evolution.

Jason Westerbeck is a Master’s candidate at the College of William and Mary. His research topic investigates protecting our DNA from the effects of radiation.
Congratulations Undergraduate Research Fellowship Winners

Lindsey Andrews is a Senior at Old Dominion University. Her research explores remote sensing with LIDAR.

Gordon Civalier is a Senior at Virginia Tech. His research topic is the development of a direct skin friction measurement system for fluid flows via retractable strain gages.

John Jones is a Senior at Hampton University. His research investigates time dependence of polar mesospheric cloud brightness.

John Kiefer is a Senior at Virginia Tech. His research investigates multiscale modeling of damage evaluation in energetic materials.

Lynna Nguyen is a Senior at the University of Virginia. Her research involves development of an electroactive polymer sensor for use in a novel tube pump.

Adam Shoemaker is a Senior at Virginia Tech. His research explores fiber-optic as a viable means of data acquisition in aeroderivative gas turbines.

Jennifer Thorne is a Senior at the College of William and Mary. Her research topic is runway configuration management.

Aaron Bailey is a Senior at the University of Virginia. He is researching the non-destructive evaluation of metal alloys using non-linear acoustics.

Kevin Cox is a Senior at the College of William and Mary. His research involves magnetic field measurements and imaging using coherent resonances in

Stuart Keech is a Senior at the University of Virginia. His research investigates tunable diode laser absorption tomography for analysis of dual-mode hypersonic pro-

Bryan Murray is a Senior at Virginia Tech. He is researching GIS to characterize potential interactions between Virginia’s coastal aerospace activities and offshore energy development.

David Nicholson is a Senior at the University of Virginia. His research explores computer simulations of carbon nanotubes and nanocomposite materials for thermal protection systems.

Zachary Sternberger is a Senior at Virginia Tech. His research involves tensegrity structures for formation flying.

For more information on VSGC scholarship and fellowship award program, contact Chris Carter, Deputy Director, Virginia Space Grant Consortium, 757/766-5210/ excarter@odu.edu
Dear Virginia Space Grant Consortium,

Thank you for the VASTS program. I attended the Summer Academy last summer, 2009, in the second week, but I never really realized the full impact that your program made on me until now—a year later, when I’m about to leave for college.

I am one of the inaugural class at New York University’s new program in Abu Dhabi, the capital of the UAE. This is an unbelievable opportunity for me—it’s my absolute dream school and they gave me a full ride—but it’s also incredibly selective and has the lowest acceptance rate (2.7%) in the world. It might seem like a stretch, but I honestly believe that I would never have applied if it weren’t for what VASTS taught me.

And what did it teach me? About as many life lessons as math and science! The week of Summer Academy at (NASA) Langley stretched me past what I thought I could do—it’s still unbelievable to me that about 35 high schoolers put together a Mars mission without missing any key components—and now I know for sure that I can rise to any challenge: working accurately and creatively on three hours of sleep, speaking in front of dozens of high-ranking people, answering the questions of aforementioned people intelligently, teaming with my peers (and non-peers!) in a real partnership, dealing with insane deadline pressure and unexpected twists, organizing a group of people, keeping the overall goal in mind as well as paying attention to all the details of that goal, overcoming things like budget and time limitations. All these things have and will continue to serve me well in my education, career, and life.

The most important thing that week taught me, though, was that I have the ability to lead—not just manage or oversee, but lead. Admittedly, I worked with a group of people who were probably smarter and more driven that I was, which helps, but I found in myself the (previously unknown) capacity to see a vision, and get other people to believe in it too—so much so that they wanted to push themselves to the limit to reach it. I discovered the confidence to be a leader in my role as Systems Manager (shoutout to the fantastic Living There team!)

That’s really what VASTS gave to me—confidence. In my own abilities, in my capability to be flexible and to adapt, in my means to rise to the occasion, in my leadership. Without that confidence, I would have talked myself out of applying to NYU Abu Dhabi. And that would have been one of the biggest mistakes of my life.

So thank you for VASTS, for believing in us high schoolers and giving us the chance to prove ourselves to ourselves. Thank you for giving us an impossible task to rise to.

Oh, and one more thing VASTS gave me—an abiding love for the exploration of space. I find myself telling people “well, I’m not sure what I want to major in yet, but something that’ll get me into the Mars project at NASA! And if there isn’t one, I’ll make one!” I raged when I heard about the budget cuts that canceled Orion and the related moon programs, but I still believe we’ll get there somehow.

So once again—thank you for everything that VASTS is. I can’t tell you how grateful I am for the VA Space Grant Consortium and for the work of the people behind the program. It’s made a great difference in my life, and I hope that you can continue to make an impact on Virginia’s Aerospace Science and Technology Scholars :)

Gratefully,
Erin Meekhof
Systems Manager of the Living there Team (White, Week 2, Summer 2009)
VSGC, in partnership with Hampton City Schools, National Oceanic and Atmospheric Administration (NOAA) and the Mariners’ Museum in Newport News, VA, recently hosted the first of three Gaining Early Awareness and Readiness for Undergraduate Programs (GearUp) programs for 2011. Students from Hampton and Phoebus High Schools attended the Exploratory Saturday event at the Mariners’ Museum. These students have been participating in GearUp since middle school and will be tracked throughout high school until they graduate to determine the impact of these STEM activities on their future academic plans.

Activities and lessons in Oceanography, Meteorology and Global Climate Change give students an opportunity to engage in hands-on learning. The Mariners’ Museum staff conducted a session on “Big Winds, Big Waves: the Science of Hurricanes. Students learned the history of hurricanes, how they are tracked and how they affect life in the coastal regions.

GearUp, is funded by a grant from the U.S. Department of Education.