



# Virginia SpaceLink

Virginia Space Grant Consortium

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*Aerospace Partnerships in Education* ♦ *Research* ♦ *Industry*

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VIRGINIA'S CENTER FOR INNOVATIVE  
TECHNOLOGY

## VSGC To Coordinate National University Design Competition for FAA

The nation's undergraduate and graduate engineering and science students will soon have the opportunity to help the Federal Aviation Administration (FAA) in its mission to improve the safety, capacity and efficiency of the nation's airports. VSGC has been selected by the FAA to develop and manage a national University Design Competition for Airports.

The Competition will allow students to address specific design challenges that deal with airport operations falling under three broad categories: 1) Airport Operations and Maintenance; 2) Runway Safety/Runway Incursions and 3) Airport Environmental Interactions. Through the design challenges -- all very real issues for the national air transportation system -- FAA is seeking innovative solutions from undergraduate and/or graduate students working as individuals or teams under the mentorship of a faculty advisor. Submissions must be from U.S. colleges and universities. Specific challenges will offer opportunities for interdisciplinary approaches. They are expected to embrace a range of science and engineering disciplines and include such diverse topics as: making snow and ice removal more environmentally friendly, improved methods for fuel spill cleanup, innovative pavement repair, improved visual aids for pilots and ground personnel, and lighting solutions.

VSGC Director Mary Sandy notes, "the FAA wants to raise student awareness of the importance of airports to the National Airspace System infrastructure while increasing the involvement of the U.S. academic community in addressing airport operations and needs. The Competition seeks to provide the framework and incentives for quality educational experiences for university students while developing an awareness of and interest in airports as a vital and interesting area students can consider as they make their career plans." The VSGC was selected in large part because of its previous experience in developing and implementing a university design competition focused on general aviation for NASA, FAA and the U.S. Air Force.

*Continued on Page 4*

### Inside this Issue . . .

3.....Teaching Earth and Space Science

4.....Carter Named Assistant Director

6.....Scenes from Space Camp

7.....ITEST Offers Free Teacher Courses

10...NOAA-B Wet Project Trains Teachers



## The Director's Corner



Congratulations to Chris Carter, who was recently named Assistant Director. Chris has done an outstanding job in his previous position as the Consortium's Educational Program Manager and will add value to the VSGC in this expanded position. We welcome Nick Koltun as our new Program

Specialist effective January 30. Nick previously served as manager of the NASA Education Resource Center at the Virginia Air and Space Center. Nick brings valuable experience in working with teachers as well as in higher education.

At the December meeting of our Advisory Council Dr. Dennis Manos of the College of William and Mary stepped down as Advisory Council Chair and as our representative from the college. Dennis served on the Advisory Council since 1992 and as Chair since 1995. We are deeply gratified for his many contributions. Dr. Chris Hall from the College of Engineering at Virginia Tech was unanimously elected as the new Advisory Council Chair. Chris has been an active representative from Virginia Tech since September 2000. We look forward to working with him in this new role.

The Consortium has two budget amendments pending in the Virginia General Assembly. Senator Charles Colgan and Delegate Harvey Morgan are serving as Chief Patrons for both amendments, which have many co-patrons. The first would increase the Consortium's line item for scholarships and fellowships in the SCHEV budget by \$80,000, permitting us to fund about 15 new scholarship or fellowship awards. The second amendment would provide the base funding for the VSGC to establish and conduct a statewide Commonwealth Industry Internship Program open to all Virginia college students. The initiative would be done in partnership with the state's Regional Technology Councils, Virginia universities and community colleges and the State Council of Higher Education in Virginia. The program is expected to provide several hundred industry-paid internships in science, technology and engineering positions for Virginia undergraduates.

*Mary Sandy*



## VIRGINIA SPACE GRANT CONSORTIUM

In 1988, Congress enacted the NASA National Space Grant College and Fellowship Program (also known as Space Grant). The Virginia Space Grant Consortium (VSGC) received its designation from NASA in 1989.

The VSGC is a coalition of five Virginia colleges and universities, NASA, state educational agencies, Virginia's Center for Innovative Technology, and other organizations with a strong interest in math, science, engineering and technology education and the preparation of a qualified high technology workforce. The VSGC acts as an umbrella organization, coordinating and developing educational and research efforts for Virginia and the nation.

### VIRGINIA SPACE GRANT CONSORTIUM

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## Teaching Earth and Space Science Conference Sponsored by VSGC

Imagine learning the wonderful world of space and earth science without the ability to see or hear. Now imagine having the ability to see and hear but being responsible for teaching science to students who cannot. New technology, innovative techniques and lots of motivation were key themes at the, Teaching Earth and Space Science the Special Way conference on November 3-4 in Hampton. More than 100 science teachers learned how to make science education come alive and accessible for students with visual and hearing impairments. During the conference, teachers gained hands-on experience using tactile graphics and other multi-sensory and cutting-edge technology to experience the many elements of space and earth science.

The VSGC and the Virginia School for the Deaf, Blind and Multi-Disabled (VSDBMH) conducted the VSGC was awarded grant funding from SERCH (Southeast Regional Clearinghouse), a broker/facilitator for NASA's Science Mission Directorate to conduct the conference.

Other Conference partners and contributors included the Virginia Department of Education, the Virginia Department for the Blind and Vision-Impaired, the Virginia Department for the Deaf and Hard of Hearing, NASA's Center for Distance Learning/National Institute of Aerospace, Canon Training and Technical Assistance Center, Old Dominion University (T-TAC/ODU), Virginia Relay, Virginia Association of Science Teachers (VAST), Norfolk Public Schools, and the Region 2 Mathematics and Science Coalition.



*Dr. Debbie Pfeiffer (standing), Specialist for Deaf and Heard of Hearing at VCU, provides website resources for teachers.*

***Comments from Conference participants include; “this conference has removed some of the stereotypes and misnomers about students with disabilities and those who have successfully completed graduate and doctoral programs with a disability.” Another participant noted, “the conference was inspiring as well as informative. The best practices and hands-on technology workshops were helpful.”***

Two keynote speakers delivered informative and motivational presentations to kick-off the Conference. Mike Kersjes, President of Space is Special, Inc. and author of the book, ‘A Smile as Big as the Moon,’ was the Conference’s first speaker. His presentation, Launching a Dream, told the true story of how he and 20 special needs students in his classroom took on all odds in opening the doors at Space Camp to compete against the

most gifted students from around the world.

Dr. Harry Lang, Rochester Institute of Technology and National Technical Institute for the Deaf, delivered the second keynote address. His presentation, Paint the Sky With Stars, discussed the contributions of persons with disabilities to astronomy and space science and provided stories and information that can motivate young persons with disabilities to pursue science careers.

The goals of the Conference included:

- Foster a collaborative responsibility among the community involved in the teaching of earth/space systems to students who are sensory impaired.
- Impart to science educators and educators of students with sensory impairments knowledge, skills and resources for integrating educational technology and assistive technology into science curriculums.
- Increase awareness of assistive technology solutions for making earth and space science instruction, materials, and programs accessible to students who are sensory impaired.
- Provide educators with a stronger base of knowledge through which they can encourage and support students with sensory impairments to pursue careers in STEM fields.



## Carter Named Assistant Director of VSGC

Chris Carter of Virginia Beach has been named Assistant Director of the Virginia Space Grant Consortium (VSGC). The Hampton-based, statewide organization is a NASA-sponsored coalition of Virginia universities, state agencies, and other institutions devoted to aerospace-related education and research. A key focus is improving math, science, technology and engineering education at all levels while building a strong science and technology workforce and university research capabilities in aerospace-related fields.

Carter has served since 2003 as the Consortium's Educational Programs Manager, overseeing the Consortium's comprehensive scholarship and fellowship programs as well as a wide range of higher education and teacher professional development

initiatives. He holds an M.Ed. in Instructional Technology from East Tennessee State University (ETSU) and a B.S. in Management Science from Virginia Tech with additional coursework at East Tennessee State University toward an Ed.D. in Private and Post-Secondary Leadership.

Prior to joining the VSGC, Carter served as Training Coordinator for the ETSU Employee Development Center in the University's Office of Human Resources and as Adjunct Faculty to the College of Education. He also worked as a Workforce Training and Development Instructor in the Regional Adult Education Department in Gate City, Virginia and as an adjunct faculty for Northeast State Technical Community College in Blountville, Tennessee and Mountain Empire Community College in Big Stone Gap, Virginia.

Additional information on the Virginia Space Grant Consortium can be found at [www.vsgc.odu.edu](http://www.vsgc.odu.edu).



*Dr. Dennis Manos, Professor, College of William and Mary, was presented a brass clock to commemorate his tenure as Chair of the VSGC Advisory Council. Mary Sandy, VSGC Director, made the presentation during the December Advisory Council Meeting. Manos, who served as Chair since 1995, has been an active member of the Advisory Council since 1992 and also served during that time on VSGC's Scholarship and Fellowship committee. He will be missed by his many VSGC friends and colleagues.*

### **FAA Design Competition** *Continued from Page 1*

Competition design challenges might typically be addressed as part of a senior design class or independent study option or through other academic venues, including faculty-mentored, college-based student chapters of professional societies. The Competition requires evidence of interaction with airport operators and industry experts for feedback on the practicality of the proposed design/approach. Cash awards will be available to winning teams.

Partners for the Competition include: the American Association

of Airport Executives (AAAE), the Airport Consultants Council, the Airports Council International – North America, and the National Association of State Aviation Officials. All four organizations have assisted with the establishment of the competition, and will provide advice, supply expert links for teams, assist in dissemination of the Competition opportunity to its members, and participate in design review. Winners will participate in a formal award ceremony in June 2007 and will have the opportunity to present

their designs at the AAAE meeting in Washington, DC in June 2007.

A formal announcement on the Competition is expected in early spring 2006 with the option of student participation in summer 2006, fall 2006 and spring 2007 semesters.

Watch for the announcement and guidelines on the VSGC web site: [www.vsgc.odu.edu](http://www.vsgc.odu.edu) or let us know at [vsgc@odu.edu](mailto:vsgc@odu.edu) if you would like to be placed on the list to receive an email announcement when the guidelines become available.

## VSGC Awarded Continuation of NASA USRP

Once again, junior and senior undergraduates from across the United States will have an opportunity to apply for the NASA Undergraduate Student Research Program (USRP). The Virginia Space Grant Consortium (VSGC) was recently awarded a 12-month grant from NASA Headquarters Education Division to continue the program for 2006. An online application was available to students January 23 with an application deadline of February 20. The application review and student selection process will be conducted late February and March time frame.

The VSGC implemented the program for NASA and has managed it since 2000. Some 622 students from across the United States have been placed in research positions since the program's inception. Students work under the guidance of a mentor in a ten-week summer or fifteen-week

fall session at NASA Centers and partner organizations. Aligned with NASA's research and development mission, USRP provides students with excellent hands-on theoretical and applied research.

A USRP participant noted,

*"The most significant benefits of the program are being able to work in a government agency and make contacts within the organization and also getting a real-life experience of research work. Through the people I have met, I have learned much about what kind of career path I could choose, and about how research facilities compare to private corporations. I had also never known what kind of work was involved in research, but after working with NASA Marshall*



2005 USRP Students at NASA Glenn Research Center

*Space Flight Center, I know what it's like, and am able to say whether or not research is something I would like to do as a career."*

Students receive a stipend of \$5,000 for the 10-week summer session and \$7,500 for the 15-week fall session plus travel arrangements. NASA USRP targets rising junior and senior undergraduates enrolled full-time in an accredited U.S. college or university and studying in the fields of engineering, mathematics, computer science or physical/life sciences. Support for USRP is also provided through collaborative efforts with the National Space Grant Foundation, Council on Undergraduate Research, National Society of Black Engineers and the American Association of Community Colleges.

All NASA Centers, the Jet Propulsion Laboratory, Wallops Flight Facility and White Sands Test Facility participate in NASA-USRP. Additionally, a federal partnership was established with the Los Alamos National Laboratory for student research experience.



*Nine USRP students selected by NASA to attend the 56th International Astronautical Congress in Fukuoka, Japan October 17-21, 2005. Students from left to right are, standing: Carly Donahue, Berry College; Adrian Accurso, Dartmouth College; Shayla Swain, Tuskegee University; Stephen Brookman, University of Maryland at College Park; and kneeling: Andrew Riha, Iowa State University; Chris Dodson, Ohio University; Alexander Joel Alon, University of South Carolina; Ratsessiea Lett, Jefferson Davis Community College; and Chris Hansen, Iowa State University.*

## VSGC Sponsors Students To Attend Space Camp in Alabama

For the second year in a row, Virginia Space Grant Consortium sponsored four students from the Virginia School for the Deaf and Blind (VSDB) in Staunton to attend Space Camp for Interested Visually Impaired Students (SCIVIS) in Huntsville, Alabama. SCIVIS is a six-day program complete with astronaut training for young people.

Activities include simulated Space Shuttle missions, IMAX movies, training simulators, rocket building and launches, scientific experiments, and lectures on the past, present, and future of space exploration.

This special week at Space Camp is coordinated by teachers of the visually impaired from all over the United States. "We had a wonderful experience this year, and your organization helped to make it possible." "The students will never forget their life-changing week in Huntsville, and who knows, maybe someday one of them will work for NASA", stated Anne Knopp, a VSDB teacher who accompanied the students.

The minimum age for student participants is 10 years old and they must be enrolled in at least the 4<sup>th</sup> grade. The only other requirement is the desire to have a great time.

The students stay in dormitories while taking part in action-filled days learning about science, space, and technology.

## Scenes from Space Camp

*Students enjoy the training simulator complete with flight suits*



*Mission control simulation allows students to experience the excitement and challenge of space missions*

*Survival float techniques provide recreation and learning opportunities for Space Camp students*



*Dear VSGC,  
Thanks for the money you provided for us to go to Space Camp. I enjoyed myself. The experience was awesome! I made friends from all over the world. My favorite simulator was the MAT. MAT stands for multi-access trainer. This simulator simulated a shuttle going into a spin when coming back into orbit.*

*Sincerely,  
Brittany  
Space Camp Attendee*

## ***ITEST Offers Free Courses For Earth Science Teachers***

The Virginia Space Grant Consortium (VSGC) in partnership with Portsmouth Public Schools (PPS) is offering the Innovative Teachers of Earth Science in Tidewater (ITEST) program. ITEST is a collaboration between VSGC, PPS, and three higher education institutions: Norfolk State University, Old Dominion University, and Virginia Wesleyan College, with the goal of increasing the number of fully endorsed Earth Science teachers in the Tidewater area. ITEST will provide teachers with free accelerated college courses to assist teachers in becoming highly qualified as defined under the No Child Left Behind (NCLB) Act. The coursework in ITEST will explicitly address inquiry, nature of science, and the required Earth and space science content areas.

**These free courses are offered only to teachers in the public school divisions of: Chesapeake, Hampton, Norfolk, Portsmouth, and Suffolk. Teachers from other school divisions may also apply but first priority will be given to teachers from those five divisions. Teachers from school divisions participating in the Virginia Earth Science Collaborative are not eligible to apply. Any textbook(s) for the courses are not covered with the free tuition and are the responsibility of the participating teacher.**

All courses are held at I.C. Norcom High School in Portsmouth, Va. For more information or to apply, contact Chris Carter, VSGC's

Assistant Director at [cxcarter@odu.edu](mailto:cxcarter@odu.edu), or phone 757-766-5210.

Upcoming courses include:

### **Fundamentals of Astronomy**

**Norfolk State University, SCI 504**

**Dates: Feb 28 - April 20, Tues/Thurs, 6:30 - 9 p.m.**

**(no class week of March 13)**

**Instructors: Dr. Floyd Miller and Dr. Carlos Salgado-NSU, and ITEST Master Teacher, Amber Agee-Dehart**

**Application DEADLINE: February 11, 2006**

Some planetarium and telescopic observation sections will be scheduled at the Norfolk State University campus during normal class hours. Textbook: *Astronomy: A Beginner's Guide to the Universe*, Chaisson and McMillan, Prentice Hall.

### **Physical Geology**

**Virginia Wesleyan College**

**Dates: April 24 - June 8,**

**Tues/Thurs, 5:30 - 8:30 p.m.**

**(with overnight field trip to the Appalachians one Saturday-Sunday, possibly in late May, actual date TBD).**

**Instructors: Dr. Chris Haley-VWC, and ITEST Master Teacher, Amber Agee-Dehart**

**Application DEADLINE: April 3, 2006**

Textbook: Information will be sent via email.

## **ODU Experiment Selected to Fly On Sounding Rocket**

Congratulations go to Dr. Robert Ash and Dr. Min Song of Old Dominion University for being selected by NASA Goddard's Wallops Flight Facility to fly a sounding rocket payload this summer. Undergraduate students from ODU, Salisbury University and/or the University of Maryland Eastern Shore will also participate. The project will utilize a Sub-orbital Student Experiment Module Rocket payload (SubSEM) and is scheduled to be launched from Wallops Island in June. The purpose of the experiment is to address the following issues:

- 1) Influence of sounding rocket launch vehicle acceleration environment on the ability of a low-cost small-scale, wireless sensor network to maintain communications during the launch phase of the flight.
- 2) Characterization of the radio frequency, space electromagnetic and instrumentation noise that should be simulated in a ground-based mock wireless network satellite environment.

The system will be designed to gather data related to electromagnetic signals that occur during the entire flight in order to provide data needed to simulate the radio frequency environment in the mock spacecraft environment simulator to be built after this flight.

The scientific advantages of this experiment are to effect spacecraft harness layout simplification, saving assembly, integration and test labor, enhancing security and fault tolerance.

## *2005-06 Teacher Education and Community College Awards*

The Virginia Space Grant Consortium (VSGC) awarded a total of \$16,000 in Teacher Education and Community College Scholarships for the 2005-06 academic year. The awards include four Teacher Education Scholarships and eight Community College Scholarships.

The one-year Teacher Education Scholarships are \$1,000 awards made to students enrolled in a program of study that would qualify them to teach in a pre-college setting. This award encourages students to become teachers of mathematics, technology education, and the sciences, especially space and environmental science. The program is open to undergraduate students who are U.S. citizens and are enrolled full-time (minimum of 12 credit hours) when they actually receive the award. Students may apply during their senior year of high school or sophomore year in a community college. The award is contingent on matriculation to a Virginia Space

Grant university and can apply when they declare their intent to enter the teacher certification program. Those students enrolled in a career transition program leading to a degree in education are also eligible to apply.

The one-year Community College Scholarships are \$1,500 awards made to students enrolled in associate degree programs leading to careers in high technology fields, particularly those with aerospace relevance. Both awards, which are determined by a committee of VSGC representatives, are based on an evaluation of the applicant's degree program, plan of study, past scholastic achievement and academic potential.

VSGC has awarded over \$3 million to nearly 500 students pursuing higher education at Virginia Space Grant universities and community colleges.

### *Congratulations Teacher Education Scholarship Awardees*



Paul Bunnell is a senior at the University of Virginia majoring in Physics with plans to pursue a Masters of Teaching.



Kendra Rucker is a graduate student at Hampton University pursuing a Masters Degree in Education and plans to teach mathematics.



Alisa Mook is a sophomore at Virginia Tech pursuing a B.S. in Math with plans to obtain a Masters in Education.



Alyson Lancaster is a Freshman at Virginia Tech majoring in Biology. She plans to pursue a Masters in Education degree.

## *Congratulations 2005-06 Community College Scholarship Awardees*



David Henderson, Norfolk, Va., is an engineering major at Tidewater Community College and plans to transfer to the University of California at Berkley to pursue a B.S. Degree in Computer Science.



Matthew Crane, New Castle, Va., is a sophomore at Virginia Western Community College majoring in Engineering. He plans to attend Virginia Tech for a B.S. in Mechanical Engineering.



James Gourdoux, Vansant, Va., attends Southwest Virginia Community College and studies Computer and Electronics Technology. He plans to pursue a Computer Science degree at a four-year institution.



Stephen Faidley, Monroe, Va., is a sophomore at Virginia Western Community College majoring in engineering. He plans to transfer to Virginia Tech to pursue a B.S. in Mechanical Engineering.



Joel Faber, Roanoke, Va., is an engineering student at Virginia Western Community College with plans to transfer to Virginia Tech to study Aerospace Engineering.



Kenneth Johnson, Virginia Beach, Va., is a sophomore at Tidewater Community College majoring in computer engineering. He plans to pursue an advanced degree.



Kevin Ashley, Bassett, Va., is a sophomore at Patrick Henry Community College pursuing an Associate in General Studies degree with plans to transfer to Virginia Tech for a Mechanical Engineering Degree.



Jessica Scott, Stuart, Va., attends Patrick Henry Community College and majors in science. Jessica plans to transfer to Ferrum College for a degree in Environmental Science.

Information on Graduate Fellowships,  
Undergraduate Scholarships, Teacher Education scholarships and  
Community College scholarships are available on the VSGC website  
[www.vsgc.odu.edu](http://www.vsgc.odu.edu)

## NOAA-B Wet Project Trains Virginia Teachers in Bay Watershed Ecology

Nineteen teachers and four county extension agents participated in the first of two professional development opportunities in environmental education within the Chesapeake Bay Watershed October 27-28. The NOAA-B Wet project, coordinated by VSGC in partnership with Virginia Tech and Virginia Cooperative Extension, is funded by the National Oceanic and Atmospheric Administration (NOAA). Teachers from Portsmouth, Virginia Beach, Saluda, Norfolk and Chesapeake received training in GPS and GIS technology along with topographical map reading and an update from NOAA on the Status of the Chesapeake Bay.

Ultimately, teachers will become proficient in GPS so that they can teach students how to mark waypoints, draw maps, calculate area, and upload data for GIS applications. A GIS Information Technologist (GIT) at Virginia Tech will provide teachers with GIS products (map layers, including time sequences), transfer student collected waypoints onto map products, and provide technological support as needed.

Training for the project will be conducted over a two-year period at local community colleges that participate in a statewide GIS consortium. According to Chris Carter, VSGC Assistant Director and Educational Programs Manager, "teachers will learn the connection between changing land use and water quality, and how streamside restoration is conducted". They will also receive training in the Project Learning Tree secondary module "Places We Live", which involves students in activities that reinforce the sense of place



*Teachers practice using hand-held global positioning system (GPS) units to become proficient in data interpretation and collection.*



and positive action to improve their community.

Objectives for the NOAA-B Wet project include: 1) provide teachers with skills and knowledge about watershed management and ecology in the Bay Watershed so that they can provide a meaningful Bay or stream outdoor experience for students; 2) Provide teachers with skills and knowledge so that they can involve students in local monitoring, restoration and protection projects, and to

support stewardship efforts in schools and on school property; 3) Provide teachers with GPS equipment, local GIS land cover maps, other GIS products and university support for watershed restoration activities in the local watershed.

Contact Chris Carter, VSGC Assistant Director and Educational Programs Manager at [cxcarter@odu.edu](mailto:cxcarter@odu.edu) for more information on the NOAA B-Wet project.

## MicroMAPS on Proteus Developing New Techniques for Atmospheric Research

The VSGC-NASALangley-Virginia Tech MicroMAPS project is a unique tool for developing ways of tracking the distribution and movement of Carbon Monoxide in the atmosphere. The Proteus aircraft is the most cost-effective high altitude research plane as well as the highest-flying commercial aircraft in the world.

The NASA MicroMAPS instrument is the only endo-atmospheric CO measuring device flying. Because such instruments have been limited to orbital platforms in the past, it was necessary to develop a new set of algorithms to understand the data acquired during research flights over the US, Europe and in 2006 Australia.

NASALangley has been working through VSGC to sponsor a graduate student who has been developing this "Atmospheric Radiative Transfer Algorithm" since 2003. His efforts have now been successful and the algorithm is being used to reduce the data acquired to date. It will be presented at a scientific conference in the spring of 2006.

This is a transportable technique, usable for similar instruments on other atmospheric vehicles, which will serve a valuable function for atmospheric research here and as a component of the NASA exploration of other planets.

In a related area of work, VSGC, with funding from VA-MAGIC is supporting the development of a software tool which will derive the instantaneous viewing "footprint"



### *Proteus Research Aircraft*

on the surface of the earth which the MicroMAPS instrument sees as it flies at altitude. The tool will provide the geospatial coordinates of the footprint at any desired time in a format, which is useable by all standardized Geospatial, GIS software packages. Like the Radiative Transfer Algorithm, this will be a portable technology, useable for any downward looking instrument on any airborne vehicle.

The software is being developed at Old Dominion University and will be available in the spring of 2006.

The fully developed MicroMAPS package has been successfully deployed aboard the high-altitude Proteus research aircraft and to date has collected more than 100 hours of atmospheric data. Four students from UVA, 12 from ODU and 29 from Virginia Tech, as well as nine faculty members, have been involved in the development, integration and Proteus flights of the instrument package.

## Fund Created by VSGC to Assist Students

When planning your charitable giving this year, please remember the VSGC Scholarship and Fellowship Fund. The fund was created to assist VSGC in fulfilling the mission of inspiring and educating America's future scientists, engineers, technologists, and educators. Both individuals and companies are encouraged to consider this worthwhile opportunity. Contributions are tax deductible and will be used in their entirety for direct student support in one of the five student award programs. Receipts are provided for tax purposes. Please contact VSGC, 757/766-5210 for more information.

The Virginia Space Grant Consortium maintains an account with the National Space Grant Foundation which accepts tax-deductible cash gifts and bequests on its behalf. The National Space Grant Foundation is a tax exempt 501©(3) organization whose purpose is to support and enhance the Space Grant Consortia in every state to carry out education, research, and public outreach activities in science, mathematics, engineering, and technology and additional fields, related to space, aeronautics, aviation, and Earth system science. Gifts should be made payable to National Space Grant Foundation.

Since 1990, the Virginia Space Grant Consortium has awarded over \$3 million to nearly 500 students pursuing higher education at Virginia Space Grant universities and community colleges.

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