



**NASA**  
**West Virginia Space Grant Consortium**  
**West Virginia University**  
**G-68 Engineering Sciences Building**  
**PO Box 6070, Morgantown, West Virginia 26506-6070**

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*Consortium Profile*

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**Lead Institution:**

West Virginia University

**Academic:**

Bethany College  
Bluefield State College  
Fairmont State University  
Glenville State College  
Marshall University  
Shepherd University  
West Liberty University  
West Virginia State University  
WVU Institute of Technology  
West Virginia Wesleyan College  
Wheeling Jesuit University

**Government:**

NASA IV & V Program  
NRAO Green Bank Facility

**Non-Profit:**

TechConnectWV  
The Clay Center for the Arts & Sciences  
West Virginia High Tech. Consortium  
Foundation

**Industry:**

TMC Technologies, Inc.  
Polyhedron Learning Media, Inc.

**STEM Advisor:**

Dr. Anne Cavalier

[www.WVSpaceGrant.org](http://www.WVSpaceGrant.org)

**Phone: (304) 293-4099**



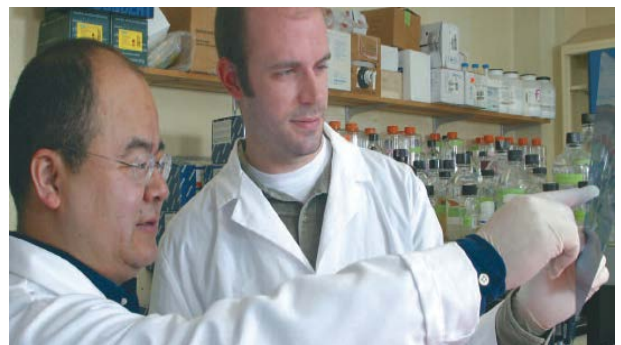
and expertise in the high-technology and industrial sectors, while facilitating transfer of the latest research and innovative concepts from universities to the industry.

The West Virginia Space Grant Consortium (WVSGC or Consortium) is a National Aeronautics and Space Administration (NASA) sponsored organization established in August 1991. It is comprised of twelve West Virginia (WV) academic institutions and eight corporate and scientific partners. NASA WVSGC is housed in the Benjamin M. Statler College of Engineering & Mineral Resources at West Virginia University (WVU). WVSGC is dedicated to building research infrastructure and promoting Science, Technology, Engineering and Math (STEM) education in West Virginia.

A Board of Directors (Board) consisting of one member from each affiliate organization governs the Consortium. The Board meets twice a year to set policy, make decisions about operations and distribution of funds in all program areas, and review national developments in the NASA Space Grant College and Fellowship program. Members of the Board have a variety of affiliations and backgrounds in academia, industry, and government. Information on various NASA and non-NASA sponsored projects and opportunities is disseminated by the Consortium's Director, and depending on the nature of the opportunity, the Director may suggest collaboration among a subset of the affiliates. The lead for a collaborative initiative will be taken by a Board member, and the Director will then serve as the facilitator and advisor for subsequent activities. Many joint activities by the affiliates have been initiated in this way, or simply by informal contacts and networking.

The Consortium's primary focus is on building research infrastructure, collaborations with high-technology industries, student fellowships as well as K-12 and public outreach programs. This is consistent with the strategic vision for the state's participation in the nation's current and future endeavors in science and technology.

To enhance interdisciplinary research between WV based industry and the academic affiliates, the program initiated the joint university-industry opportunity. This platform allows faculty to have access to resources



Marshall University researcher Dr. Hongwei Yu has discovered how a relatively benign form of common environmental bacteria becomes pathogenic. His discovery also led to a patent application and the development of a new WV bio-manufacturing business—Progenesis Technologies LLC.



WVU Team members won First Place in the categories of 'Best in Mining' and 'Best in Operations' at the first annual PISCES Robotic International Space Mining competition.



and been awarded summer internships at high-technology companies in WV. The industry internships provide students meaningful research and development activities while being mentored by their company supervisors. Our internship partners include WV High Technology Consortium Foundation, Global Science & Technology Inc., and Applied Physics Laboratory at Johns Hopkins University. The main feature of our work in this area has been personally recruiting scientists at our partner companies to work with our students, not only as research supervisors, but also as career mentors. Our experience has been that building these mentoring relationships has benefited our students tremendously, and has opened new horizons and career paths for them. This is especially true for students from underrepresented groups and women.

An example of our outreach activities is our sponsorship of the Emerging Leaders' Institute (ELI) at Bluefield State College, a minority serving institution. The mission of ELI is to provide African-American students majoring in NASA-related disciplines with opportunities for leadership development. These students visit area high schools and talk to minority students to encourage them to attend college and serve as a role model for them. The institute offers a comprehensive, curricular program grounded in leadership theory and practice, and it promotes civic service, enhances academic productivity, and emphasizes the ethical responsibilities of individuals and organizations.

Summary statistics for the student participants impacted in FY 2014-15 is given below.

Student Participant Demographics						
<i>FY 2014 Student Participant Summary</i>	Total Students	Female Students	Male Students	Minority Students	U/G Students	Graduate Students
<b>Fellowship/Scholarship</b>	145	60	85	7	136	9
<b>Higher Education</b>	53	20	33	13	42	11
<b>Research Infrastructure</b>	7	3	4	0	2	5
<b>Total Students</b>	<b>205</b>	<b>83</b>	<b>122</b>	<b>20</b>	<b>180</b>	<b>25</b>

Summary Data	Total Direct Participants	Percentage of Female Student Participants	Percentage of Male Student Participants	Minority Student Participants
	205	40%	60%	10%

The success of WVSGC in promoting NASA research in WV has resulted in an overwhelming demand and enthusiasm for our support to further enable WVSGC students to interact with NASA. The objective of WVSGC's Higher Education Program is to enhance higher education capabilities in STEM in West Virginia. WVSGC is in a unique position to initiate and support innovative programs that enable WV students to engage in hands-on experiences that will better prepare them for careers at NASA, its contractors, and other high-technology companies in the US. Before Space Grant, programs such as Student Balloon Satellite Program, Revolutionary Aerospace Systems Concepts Academic Linkage (RASC-AL) have never been available to WV students. In the past several years we have placed WV students at a number of NASA facilities including JPL, Goddard, Ames, Kennedy, Marshall, Langley, Glenn and at the IV & V Facility in Fairmont, WV. We have also nominated and sponsored WV students to participate in NASA programs such as LARSS, NASA Academy and various internships at the JPL offered exclusively to Space Grant students.

To impart students with practical experience and help them better understand what they've been taught in the classroom, NASA WVSGC students have competed for