

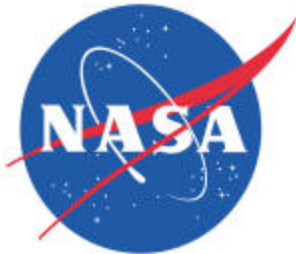


Ohio Engages Underserved Students

Ruby Mawasha, Associate Director
Ohio Space Grant Consortium

**2014 Great Midwestern Regional Space Grant
Consortia Meeting**

September 19–20, 2014
Des Moines, Iowa



Consortium Structure

- ▶ The Consortium Structure represents 27 diverse institutions of higher learning located throughout the State of Ohio and the Ohio Aerospace Institute (Lead Institution) in Cleveland, Ohio.
- ▶ Diversity for the 27 Affiliates includes 7 underrepresented members (25.93%) and 6 female members (22.22%).
- ▶ Throughout the State of Ohio [18 universities; 8 community colleges (added Cincinnati State Cincinnati State Technical and Community College in FY2014)]. Of the 18 universities, 11 are public (3 Urban Public), 6 are private, and 1 is Federal. There are 2 Historically Black Colleges and Universities (HBCUs) – 1 private*; 1 public. Other partners include NASA Glenn Research Center (GRC), the Air Force Research Laboratories (AFRL), industry, and various Education outreach partners. There is also a designated OSGC Representative on each campus.

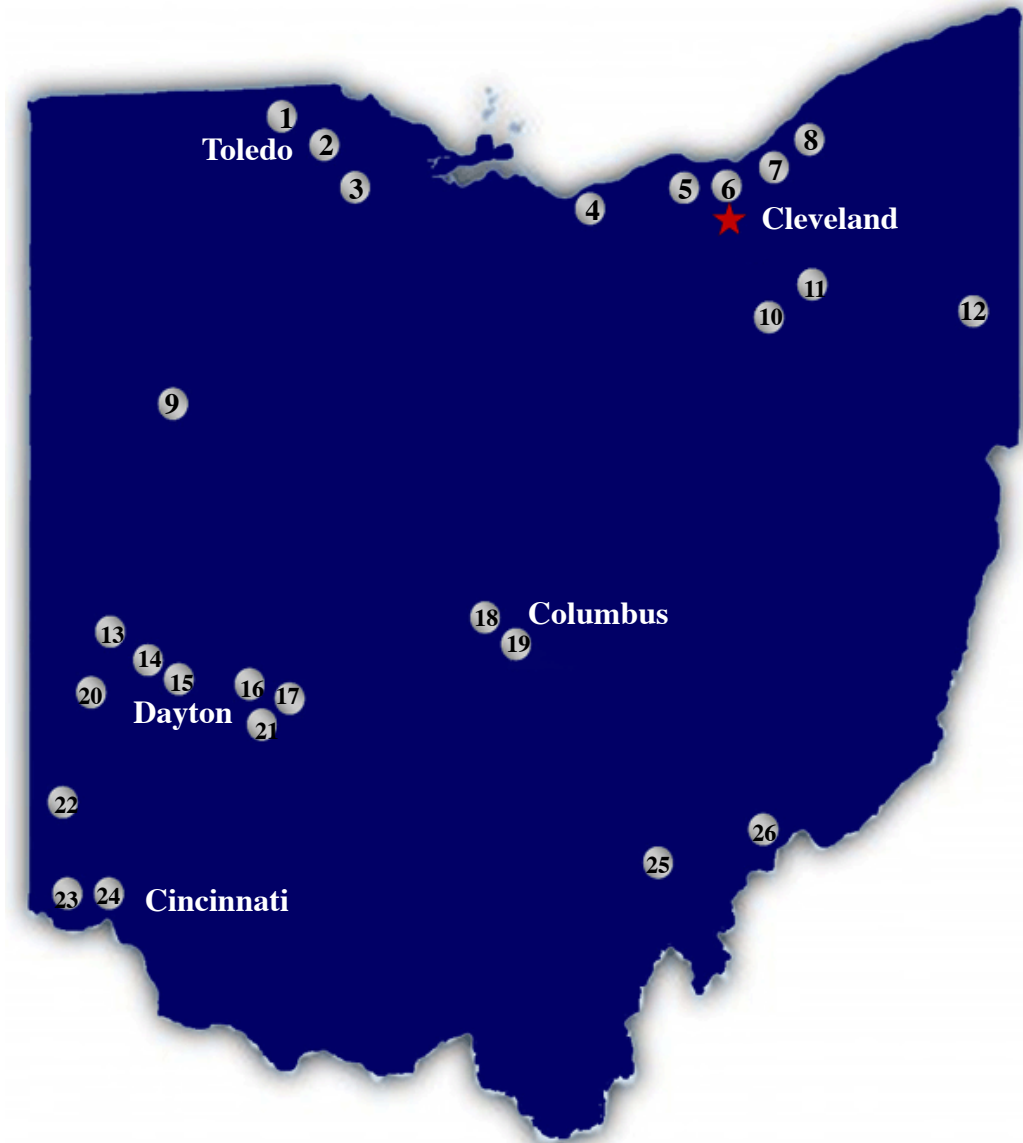
*Ohio's Wilberforce University holds the honor of being the Nation's oldest HBCU!



Map of University Affiliates

★ **The Ohio Aerospace Institute**
(OAI is the Lead Institution)

- 1 - The University of Toledo
- 2 - Owens Community College
- 3 - Terra State Community College
- 4 - Lorain County Community College
- 5 - Cuyahoga Community College
- 6 - Cleveland State University
- 7 - Case Western Reserve University
- 8 - Lakeland Community College
- 9 - Ohio Northern University
- 10 - The University of Akron
- 11 - Kent State University
- 12 - Youngstown State University
- 13 - Air Force Institute of Technology
- 14 - Sinclair Community College
- 15 - Wright State University
- 16 - Central State University (HBCU)
- 17 - Cedarville University
- 18 - The Ohio State University
- 19 - Columbus State Community College
- 20 - University of Dayton
- 21 - Wilberforce University (HBCU)
- 22 - Miami University
- 23 - Cincinnati State Technical and Community college
- 24 - University of Cincinnati
- 25 - Ohio University
- 26 - Marietta College



Student Opportunities

- ▶ Fellowships
 - Master's Degree Fellowship (Oral Presentation)
 - Doctoral Degree Fellowship (Oral Presentation)
 - Special Fellowship (Combination of factors including need, diversity initiatives, leadership)



**Desiree Cotto-Figueroa
(Ohio University) showcases her research
on Asteroids**

Student Opportunities

Scholarships

- Junior (Poster Presentation)
- Senior (Oral Presentation)
 - OSGC works with campus reps to ensure that the pool of students is diverse
 - Paul C. K. Lam Memorial Scholarship at The University of Akron
The scholarship is awarded to a deserving underrepresented undergraduate student majoring in Mechanical Engineering at The University of Akron
 - Participation of Central State and Wilberforce Universities, HBCUs in the consortium are critical to serving underrepresented students



Student Opportunities

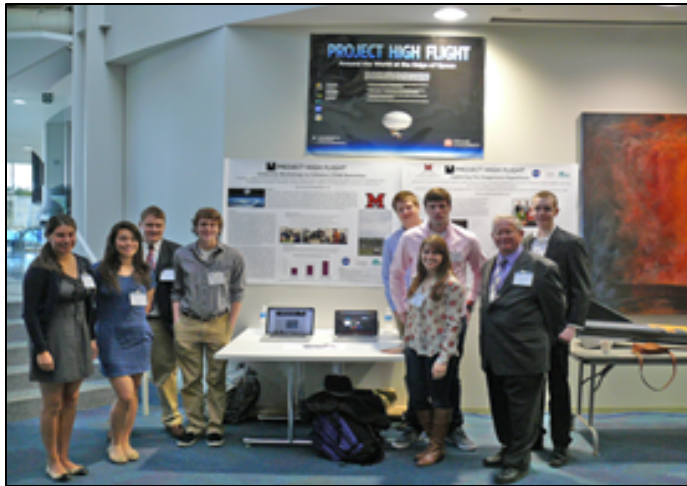
Scholarships

- Community College Scholarships (Poster Presentation)
- Education Scholarships (Workshop and Poster Presentation)
 - Majority of students participating in the education scholarship are women



Student Opportunities

- ▶ OSGC Student–Innovative–Creative–Hands–on Project (SICHOP)
 - In the final report the PI must include demographics of students, including numbers of male and female students, numbers of students from underrepresented groups, again by numbers of male and female



Project High Flight team members, Miami University of Ohio

Student Opportunities

- ▶ Internships
 - OHIO HBCU–University Research Internship Program
 - Students from Central State and Wilberforce Universities do summer research at other research institutions of higher education



**Mahogany Williams (Wilberforce University) at
The Supercomputer Lab at The Ohio State University**

Faculty Opportunities

- ▶ Faculty Research Initiation Grant Proposal (FRIGP)
- ▶ Curriculum Innovation Proposal (CIP)
 - In the final report the PI must include demographics of students, including numbers of male and female students, numbers of students from underrepresented groups, again by numbers of male and female



Faculty Opportunities

▶ Mini-Grant Program

The OSGC mini-grant program supports innovative projects and programs from disciplines demonstrating interests in STEM, and is available to Ohio K-12

- In the application the PI must provide demographics of students, including numbers of male and female students, numbers of students from underrepresented groups, again by numbers of male and female



**Rendezvous with a Comet Program,
Bishop Mussio Elementary,
Steubenville, Ohio**



**University of Cincinnati Flight Camp
participants holding their foam glider
component**

Faculty Opportunities

Informal Education Innovation Proposal (IEIP)

The IEIP is designed to enhance informal education activities that support STEM education in areas supported by NASA.

- Women in Science Day of Meetings (WISDOM), The University of Toledo
- HBCU and University/MSI Symposium held at CSU
- Northeast Ohio Regional Science Olympiad, Case Western Reserve University



Women in Engineering



Women in Engineering Summer Camp @ the University of Dayton (UD)

https://www.udayton.edu/engineering/hs_programs/women_in_engineering_summer_camp/index.php

- ▶ **Camp is a Sunday-through-Friday experience that gives high school female students the chance to dabble in engineering through hands-on, learn-by-doing activities**
- ▶ **Guided by University professors, experiments are conducted using your creativity to make cool stuff in our classrooms and laboratories**
- ▶ **Meet women engineers and visit a job site**
- ▶ **UD Undergraduate/Graduate students act as mentors/team leaders**
- ▶ **College Experiments in the following Engineering disciplines:**
 - Aerospace
 - Chemical
 - Electrical
 - Civil
 - Mechanical
 - Innovation
 - Technology





Women in Engineering

Camp GEMS (Girls in Engineering, Math and Science) @ Ohio Northern University

http://www.onu.edu/academics/college_of_engineering/k12_outreach/camp_gems

- ▶ **One-of-a-kind four-day experience specifically for girls who love math and science, and who will be entering seventh or eighth grade in the fall**
- ▶ **Students will explore a vast array of exciting worlds – from technology, math, chemistry and computers to civil, electrical and mechanical engineering**
- ▶ **Taught directly by University professors, receiving plenty of personal attention with only 12 students per teacher (engineering students act as mentors)**



Annual Student Research Symposium

The Annual Symposium is an opportunity for all students to interact in a professional and diverse setting



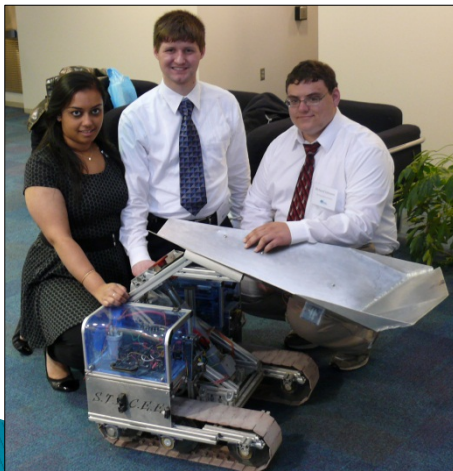
Donielle Brooks/
Clark Fuller (CSU)



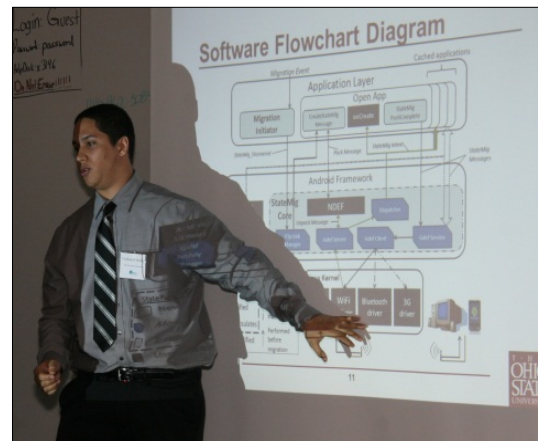
Chelsea Atkins (Kent)/
Howard Thompson (OAI)



Students' Poster Presentations



Akron Lunabotics
Team + CHRISTEE



Nathaniel Morris
(OSU) MS Fellow



OSGC 2014 Symposium
Group Picture