



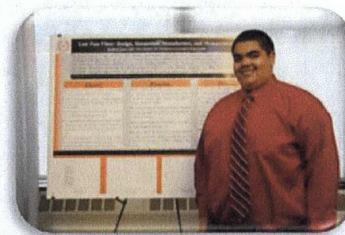
Upstate Louis Stokes Alliance for Minority Participation

Impact 2007-2010

The call to reform virtually all aspects of the K-16 education pathway seems to have reached a crescendo over the past few years. Recognizing the profound impact the changing global economy will have on the U.S. and related threats to our preeminence as the world's technological leader, reports from the National Academies, Federal agencies, professional societies, policy and education think tanks and others have been crying out for innovative strategies to respond to and address this looming crisis. While the causes of these concerns are multi-faceted and potential solutions subject to rigorous debate, irrefutable is that access to and success in higher education is influenced by numerous and often interconnected social and academic factors.

The Upstate New York region is a microcosm of this national reality, with innovation playing a central role in the development of a new economy for the region, and the Upstate colleges and universities working together to develop the next generation of innovators. Equally imperative is growing a workforce highly qualified for our knowledge-based economy that is representative of our nation's demographics. The ULSAMP alliance is designed to tap into the rich potential of groups historically underrepresented in the STEM fields, and to respond to our nation's goals and pressing local needs.

The Upstate Louis Stokes Alliance for Minority Participation (ULSAMP) is dedicated to maximizing the potential and increasing the number of African American, Latino American and Native American (AALANA) students receiving bachelor degrees in the fields of science, technology, engineering, and mathematics (STEM). The program supports student success by providing: funding, research and internship opportunities, academic enhancement, and mentoring services. Over the past three years, ULSAMP activities have had a major impact on the students, faculty, staff, and communities affiliated with the alliance institutions. ULSAMP has provided numerous opportunities for the growth and development of the people involved with the project. ULSAMP continues to provide students with experiences that provide a strong foundation for their future. Many of these initiatives would not have been possible without the support of the National Science Foundation.



Upstate Louis Stokes Alliance for Minority Participation Institutions

The Upstate LSAMP alliance was formed in 2007 and comprises seven institutions of higher education in the Upstate New York region. There are five 4-year institutions and two community colleges in the alliance: Clarkson University, Cornell University, Monroe Community College, Onondaga Community College, Rensselaer Polytechnic Institute, Rochester Institute of Technology, and Syracuse University (Lead Institution). These institutions - public and private, large and small, undergraduate, comprehensive and doctoral – are together determined to impact the region in the near-term by increasing substantially the number of underrepresented students who complete degrees in science, technology, engineering and mathematics (STEM) disciplines and, in the long-term, by increasing the numbers who move into related careers, including graduate school on the way to a professorial or research appointment.

The ULSAMP institutions are located in the Upstate New York region, which spans from the Hudson River Valley to Lake Ontario on the north coast of New York, and boasts a stellar tradition of cultural diversity, an array of institutions of higher education ranging from community colleges to distinguished research institutions, and pioneering industrial and technological innovations. The ULSAMP alliance provides a mechanism to synthesize these three regional assets and enables the institutions to contribute to the regional and national need for academically talented individuals prepared to make significant contributions to a high-tech workforce.

The LSAMP Impact

The Upstate Alliance institutions have benefitted greatly by being a part of the national LSAMP program. The LSAMP grant has allowed institutions to focus on diversifying student bodies which in turn impacts the U.S. STEM workforce. At any given time during the academic year, over 200 students are directly participating in Upstate LSAMP programs and activities. Having ULSAMP on our campuses has fostered an environment conducive to beginning the process of institutional transformation as it relates to underrepresented students and STEM education. Changes on campus, made possible by LSAMP funds, not only benefit LSAMP students, but also have a positive impact on students not affiliated with the program.

Major Areas of Focus:

Research:

Undergraduate student research is one of the most powerful predictors for student success in STEM education. Undergraduate research allows students to connect their coursework to practical laboratory applications, and students who participate in research early in their college careers are significantly more likely to be retained in STEM fields and pursue graduate study. The ULSAMP staff places a major focus on undergraduate student research for LSAMP students. Students from all alliance institutions are encouraged to pursue research lab experiences early in their academic careers. With an increasing focus on community colleges, a number of initiatives have been developed to ensure community college participation in undergraduate research throughout the alliance. Participation in ULSAMP activities opens doors to coveted research and career building opportunities. As a result, more than 125 students have participated in faculty-guided summer and academic year research since the formation of the alliance.

These research opportunities have taken place throughout the alliance, at institutions across the country, as well as national laboratories.



Internships:

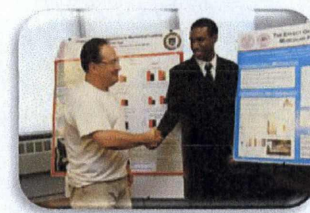
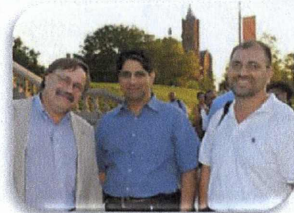
In addition to laboratory research experiences, ULSAMP students have benefited from alliance-wide collaborative relationship with corporate and industry partners. Students have been placed in internships with a number of our corporate partners including: Eastman Kodak, Xerox, IBM, JP Morgan Chase, O'Brien & Gere, GE Global Research, Welch-Allyn, Inc., and National Grid. These career-building placements have benefited students greatly in their pursuit of STEM careers and many of these internship relationships have led to full-time employment offers.

Recruitment:

In order to reach the goal of substantially increasing the number of underrepresented students graduating with degrees in STEM fields, institutions provide a supportive environment to ensure the success of all students. Research shows that students who are affiliated with a program such as ULSAMP graduate at a much higher rate than unaffiliated students. LSAMP actively recruits students through high school visits, community college transfer programs, and regional and national conferences. On the respective campuses, faculty and staff play a role in publicizing the benefits of ULSAMP to eligible students.

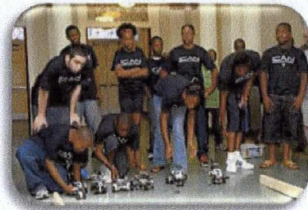
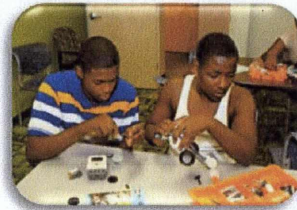
Faculty Mentoring:

The ULSAMP program has aided in developing new relationships between faculty and undergraduate students. The program has created a nurturing environment for students to learn under the guidance of senior faculty and at the same time, broadened participation of underrepresented students in STEM research. Faculty affiliated with ULSAMP play major roles in providing research appointments in their laboratories for student learning and serving as faculty mentors. These mentors are a mix of educators and advocates who set high expectations for achievement of ULSAMP students while advocating for their success. These mentoring relationships aide in improving overall academic achievement, help students make informed decisions about STEM baccalaureate and graduate study, and helps develop skills needed to enter a STEM career.



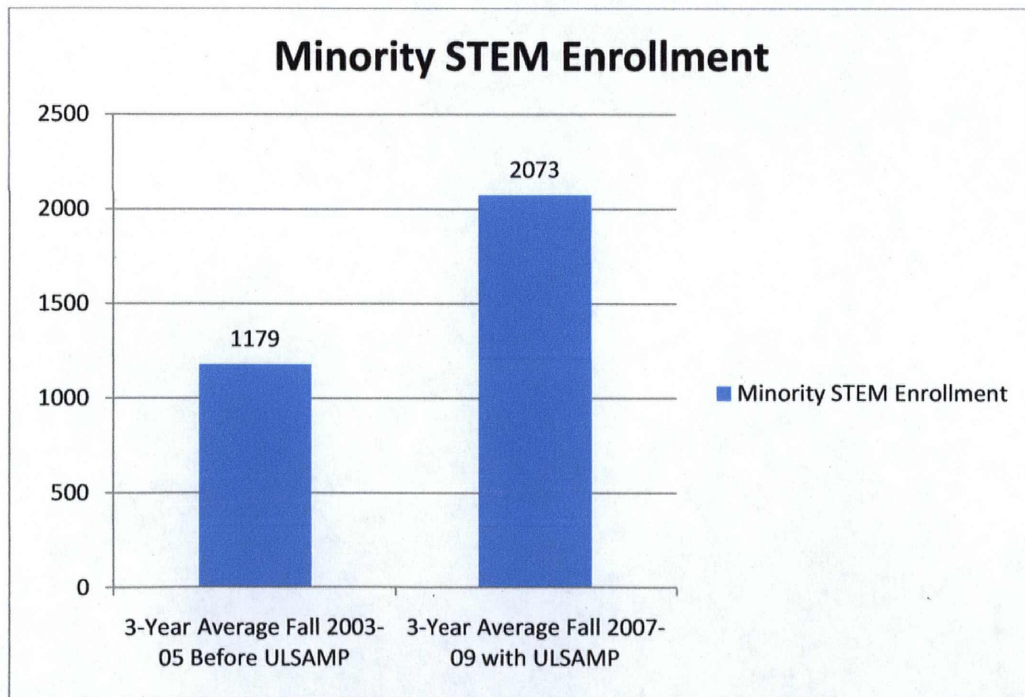
Early Outreach:

Outreach is a major part of the work done by the ULSAMP institutions. In order to increase the number of underrepresented students interested in STEM fields, K-12 outreach is necessary. By showcasing a wide range of technologies in a fun and interactive way, the various ULSAMP activities serve as opportunities to motivate more minority students to pursue careers in these fields. The initiatives are designed to aid in eliminating the so-called “digital divide” by providing young students and their families opportunities to develop an understanding of and appreciation for science, technology, engineering, and mathematics.



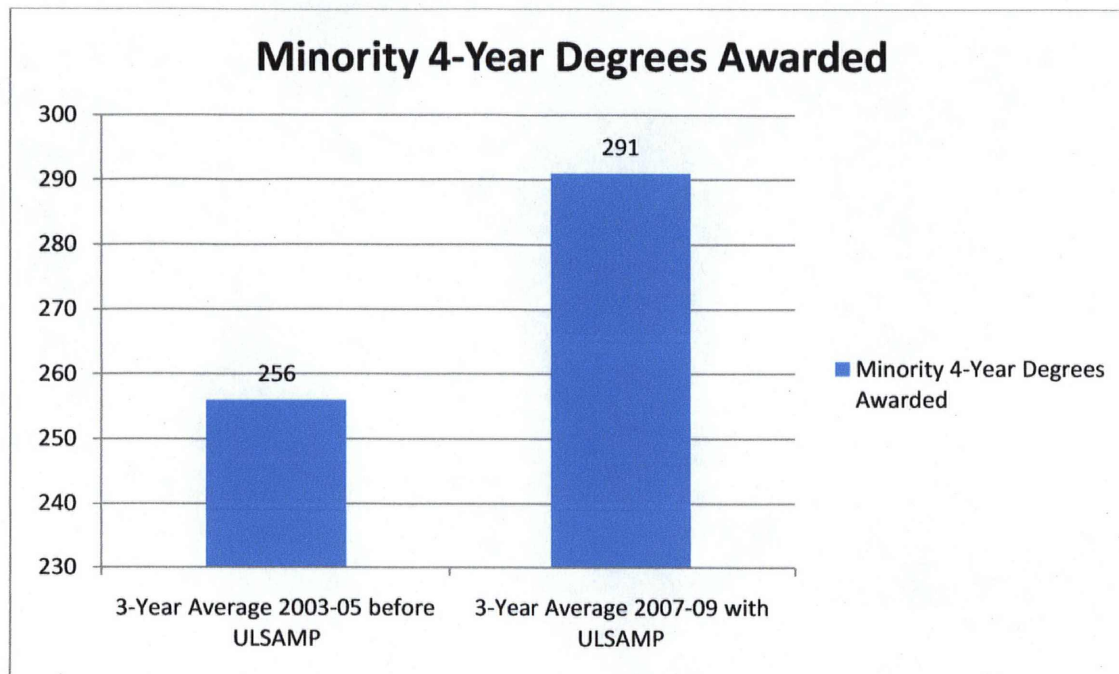
Minority STEM Enrollment:

- **ULSAMP Alliance Objective:** Increase the retention of ULSAMP scholars in the STEM disciplines by 60% above the 3-year average rate of 1,179 by project completion.
 - Since the formation of the ULSAMP alliance, undergraduate minority STEM enrollment has steadily increased. ULSAMP is in a position to have a powerful impact on the STEM workforce.



Degree Production:

- **ULSAMP Alliance Objective:** *Increase graduation of ULSAMP scholars in the STEM disciplines by 85% above the 3-year average rate of 256 by project completion.*



The ULSAMP Alliance was formed to promote strong academic performance and professional advancement through a combination of existing support structures and novel alliance-wide programming to insure that scholars have a strong connection to each partner institution and the Alliance as a whole. Our program continues to provide rich opportunities to engage and expose talented students of color to rich educational experiences like faculty-mentored research, international education, exposure to graduate education and careers as academics, and pathways to STEM careers for those who would pursue work outside academe. The benefits of ULSAMP to the partner institutions are numerous; ranging from enriching our understanding and appreciation of the needs and aspirations of others, further enhancing the quality of our support services, deepening partnerships and creating new collaborations in support of students. Importantly, this program has enabled the ULSAMP Alliance to contribute to the national need for academically talented individuals prepared to make significant contributions to the future high-tech workforce.