

The Minority Undergraduate Scholars Engineering Research Program (MUSERP) at Georgia Tech

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Vision

Research culture, as a catalyst for excellence in science and engineering, will be totally embraced by our community which has been traditionally underrepresented in this endeavor. Research, but particularly engineering research, will become an integral part of our education, leading us to acquiring the competitive edge in all of our pursuits including the fulfillment of the NSBE mission.

Mission

To position the Georgia Tech Chapter of the National Society of Black Engineers as a perennial leader, through scientific and technical excellence, bolstered by increased participation of its members in technical programs and competitions sponsored by the National Society.

Implementation Plan

The development of the Minority Undergraduate Scholars Engineering Research Program, under faculty mentorship, will provide some needed focus on several scattered research activities on campus with emphasis on the global goal articulated above. This campus wide program will be administered and monitored by Dr. Augustine O. Esobue, the Founding Advisor of the Georgia Tech Chapter of the National Society of Black Engineers and a National Advisor of NSBE who has, for decades, been closely associated with NSBE's programs in technical research and technical paper competitions. Through his Intelligent Systems and Controls Laboratory (ISCL) at Georgia Tech, he has championed the provision of a nurturing environment for the inculcation of the research culture to his students but especially those from the underrepresented groups. It has been shown that these groups are severely handicapped with respect to competitiveness for national graduate fellowships in part because of their limited exposure to research in their undergraduate studies.

Georgia Tech is an acknowledged national leader in many fronts. These include a major research university, a ranking by the U.S. News & World Report as the

#9 public university, #5 graduate engineering college, #5 undergraduate engineering college, #1 industrial and manufacturing engineering program (13 years consecutively), 9 of its undergraduate engineering programs ranked in the top 10, and 7 graduate engineering programs ranked in the top 10; a ranking by Black Issues in Higher Education as the #1 engineering bachelor's degrees awarded to African American students, #4 in engineering doctoral degrees awarded to African American students, #1 among public universities in National Merit Scholars, etc. GTSBE is an integral part of the performance of Georgia Tech with respect to education of underrepresented groups.

Clearly, the above statistics is very impressive. To cement it, NSBE has consistently ranked Georgia Tech as the #1 university of choice for graduate studies. Unfortunately, the above glowing statistics do not translate to comparable performance on the part of Georgia Tech NSBE students when it comes to participation in and winning NSBE's sponsored technical research and technical paper competitions. For almost 10 years now, not more than 2 Georgia Tech NSBE students have entered the premier national technical paper symposium and contest. The same is true for the USTR (undergraduate students in technical research) competition. The irony is that several of the winners have come from smaller colleges and universities.

In NSBE's annual best chapter of the year competitions, technical research is one single category where our Georgia Tech chapter has consistently lagged behind our other competitors. Additionally, Georgia Tech is the only university which has the enviable position of placing 2 of its engineering black faculty as members of the National Advisory Board. The inevitable conclusion is that our students have not performed, in the research front, as well as could have been expected. The Minority Undergraduate Scholars Engineering research Program (MUSERP) is designed to reverse this trend. We have already seen the potential for success through some focused attention to the problem. Because of our intensified emphasis on research in the NSBE meetings, one of our students entered the USTR competition this year. She placed 2nd at the regional level and proceeded, with additional coaching, to win the 1st place at national. An analysis of her background showed that she had imbibed the research culture as far back as high school and continued it at Georgia Tech. This is however, not the case with the majority of our students. Hence the compelling need to develop and emphasize the research culture here.

Dr. Esogbue, has used his pulpit to preach about the benefits of undergraduate research including personally funding some awards. In recent times, he has used the nurturing environment of his Intelligent Systems and Controls Laboratory to promote this facet of total person education. He has successfully written a proposal and obtained some Laboratory equipment to make this program more efficacious. He has mentored students under various existing university programs such as URIP, FACES, and SURE. A recent proposal to Kodak for funding of student work in the laboratory has not been approved. He is

persistently pursuing other funding sources including alumni of NSBE who are now in leadership positions in Corporate America.

The program is year round. High performing students are identified early on and encouraged to apply to the program. Selected students are assisted to find a faculty advisor who will agree to mentor them and who are committed to the vision and mission of the program. Students must present their work as technical papers in the Chapter's Annual Technical Paper Symposium. The students are groomed and encouraged to submit their papers to the NSBE national technical competitions. Students receive stipends for their research work and are provided expenses paid trips to the regional and national competitions. When fully developed and operational, some minimal budget for faculty mentors may be made available for materials and supplies. Successful attainment of the above mission will place the Georgia Tech Chapter in an anchored and enviable position as the leading Chapter in NSBE as well as continue to be the catalyst for other NSBE members to consider Georgia Tech as their #1 university of choice for graduate school. Additionally, it will have the effect of increasing the pool of technical papers submitted to NSBE annually in their premier technical research program. This program, had unfortunately, been dwindling in recent years. Thus, a sustained research culture within GTSBE will, in turn, reinforce the NSBE mission.

About NSBE

Background

The National Society of Black Engineers (NSBE) was founded at a conference hosted by the Society of Black Engineers at Purdue University in April of 1975. It is the largest non-profit student-run organization in the nation. NSBE represents over 10,000 members and 200 universities and institutions nationwide. NSBE recently extended its boundaries internationally with chapters in the Caribbean, the United Kingdom, and Africa. It is an organization made to support individuals who are typically underrepresented in the engineering and science communities. By implementing programs that promote academic excellence with concentrated focus on research, personal growth and career development, NSBE continues to increase the number of professionals who are committed to community development and prepared to successfully compete in the technical market place.

The Georgia Tech Chapter of NSBE (GTSBE) was founded in 1976 with Robert Dixon, Jr. as first President and Professor Augustine O. Esogbue as Founding Faculty Advisor. It has grown to become a leader in many NSBE programs. GTSBE is a major supplier of Black engineers to industry and a feeder to graduate schools across the nation. Today, many of our alumni are leaders in Corporate America, the government and academia.

The NSBE Mission

The NSBE mission is to increase the number of culturally responsible Black engineers who excel academically, succeed professionally, and positively impact the community.

The NSBE Vision

The NSBE experience empowers members to reach their full potential. We are encouraging our members to continue the legacy while maintaining leadership roles in NSBE, the Black Community at large, and other professional organizations. We instill pride in our members, and as a result, they generously give back to NSBE, contributing to our continued success.

NSBE Objectives

- To stimulate and develop students' interests in the various engineering, science and technological disciplines.
- To increase the number of minority students studying engineering at both the undergraduate and graduate level.
- To encourage members to seek advanced degrees in engineering or related fields and to obtain professional engineering licenses.
- To encourage minority youth in their pursuit of an engineering career.
- To promote public awareness of engineering and the opportunities for Blacks and minorities in that profession.
- To function as a representative body on issues and developments that affect the careers of Black engineers.

For Further Information on the Program, please contact:

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