MICHIGAN-LOUIS STOKES ALLIANCE FOR MINORITY PARTICIPATION

Impact Report Phase I

2005-2010

MI-LSAMP

LOUIS STOKES ALLIANCE FOR MINORITY PARTICIPATION

UNIVERSITY OF MICHIGAN – MICHIGAN STATE UNIVERSITY
WAYNE STATE UNIVERSITY – WESTERN MICHIGAN UNIVERSITY

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Summary of Findings

In 2005, with support from the National Science Foundation, the University of Michigan, Michigan State University, Wayne State University, and Western Michigan University established the Michigan-Louis Stokes Alliance for Minority Participation (MI-LSAMP), as a response to the national and state need for a more diverse and well-trained science, technology, engineering, and mathematics (STEM) workforce. The mission of the Michigan alliance was to design and implement a program of action that would accomplish the following goals: 1) increase the number of under-represented minority (URM) students earning baccalaureate degrees in STEM disciplines at MI-LSAMP partner institutions, 2) (a) establish and (b) institutionalize best practices, and 3) increase the number of URM degree recipients who pursue advanced STEM degrees.

Key Benchmarks

This report represents benchmarks pursuant to the goals of MI-LSAMP during its first five years (2005-2010), or **Phase I**. All of the partner institutions in the MI-LSAMP alliance designed and implemented several programs to enhance the academic and psycho-social experience of URM students. We believe that the foundational connection provided by these programs, ***Pre-1st Year Summer Transition Programs***, ***All Students Day***, ***Corporate Tours/Corporate Corners***, **and** ***Summer Undergraduate Research Academy***, and the subsequent greater level of contact with the other support services provided by our institutions, were key factors in a **33.5% increase in URM STEM degree-attainment** above the 2005 baseline *(Goal 1).* As a result of the effectiveness of these programs in affecting this increase in underrepresented minority students STEM graduation rates at the partner institutions, the "best" practices were established for the alliance *(Goal 2a).* In addition to developing and implementing the programmatic best practices, the Michigan alliance used a strategy of associating each practice with already-existing programs to facilitate sustainability by institutionalization (Goal 2b). Due to the relatively short life of the MI-LSAMP, impact data on realization of *Goal 3*—increase number of URM STEM baccalaureate degree recipients continuing on to advance degrees—is pending. However, the increase in the number of URM students participating in mentored-research at partner institutions is expected to positively impact the progression of students to STEM graduate degree programs.

In 2006, the Michigan electorate passed a referendum, Proposition 2, prohibiting consideration of race and ethnicity in admission or financial aid. During the immediate aftermath, URM enrollment decreased at MI-LSAMP institutions. Although URM enrollment has rebounded to some extent as economic status and location have been used to compensate, this, in combination with the severe economic downturn in Michigan significantly impacted the realization of Phase I goals. In response, the leadership of MI-LSAMP implemented effective strategies to address the change in conditions and advance its mission—including expanding the scope and geographic range of the alliance.

In 2009, the leadership of MI-LSAMP implemented a plan to expand its reach and impact in Michigan by engaging a select group of community colleges. Commencing with **Phase II** (2010-2015) the MI-LSAMP consortium added nine (9) community college partners, thus expanding the alliance to thirteen (13) colleges and universities, and more than doubling the number of students enrolled at the alliance institutions from just under 120,000, to greater than 140,000, as well as a doubling of the URM population. The expanded alliance, with the associated increase in the number of URM STEM students will positively impact the alliance's ability to successfully meet its goal of doubling URM STEM degree attainment by 2015.

Michigan-Louis Stokes Alliance for Minority Participation: Phase I

Impact Report

MI-LSAMP
LOUIS STOKES ALLIANCE FOR MINORITY PARTICIPATION

Preparing Students to be Global STEM Leaders

Introduction

The University of Michigan, Michigan State University, Wayne State University and Western Michigan University have had long standing collaborations with one another. Together, they represent the diversity of public 4-year institutions in the nation—major national, land grant, urban commuter and regional. While each university has demonstrated a deep commitment to increasing the diversity and excellence of their student bodies, they realized that the greatest gains would be achieved by becoming a formal alliance. In 2003 representatives from these flagship institutions, each with the Carnegie classification of Doctoral Research Extensive, began discussions to determine avenues to become a formal alliance through the National Science Foundation's Louis Stokes Alliance for Minority Participation program. They were joined in this endeavor by state officials and representatives from STEM focused organizations from across the state that had a stake in establishing a well-trained diversified STEM workforce in Michigan.

In 2005, with support from the National Science Foundation (NSF), the University of Michigan (UM), Michigan State University (MSU), Western Michigan University (WMU) and Wayne State University (WSU) established the Michigan-Louis Stokes Alliance for Minority Participation (MI-LSAMP) with the mission of designing and implementing efficient and effective strategies and programs to significantly increase the number of underrepresented minority (URM) students completing baccalaureate degrees in STEM disciplines. This initiative was launched in response to the urgent need to diversify the U.S. scientific and technically expert workforce, an essential requirement for maintaining America's global competitive economic dominance in science and technology in the 21st

MI-LSAMP's Impact Reaches Broadly Across Michigan

century (Committee on Underrepresented Groups and the Expansion of the Science and Engineering Workforce Pipeline et al., 2010; Committee on Science, Engineering and Public Policy, 2007; Kuenzi, 2008; National Science Board, 2000, 2008). The need for a more diverse and skilled technical workforce is particularly acute in the state of Michigan.

A report released last year by Michigan Future, Inc., *Michigan's Transition to a Knowledge-Based Economy: Third Annual Progress Report*, describes, similarly for the nation, the historical and current economic context that necessitates the state's urgent need to transition from a low-education attainment economy (manufacturing, construction, retail, hospitality and temporary services) to a high-education attainment, knowledge-based economy (health care, education, information, and professional and technical services). Nationally, during the current economic downturn, nearly 8 million (10 percent) low-education attainment jobs have been lost, compared to 400, 000 (1 percent) high-education-attainment jobs. In Michigan, although more severe, the economic recession trend was similar: 13 and 4 percent, respectively. In terms of job creation, the report shows that nationally, over a 20-year period, from January 1990 (also a recession year) to February 2010, low-education attainment industries employment rose 5 percent compared to 39 percent in high-education attainment industries—indicating that knowledge-based enterprises have been the primary source of new jobs in the U.S. for the past two decades, and likely will drive the economic recovery and prosperity for the U.S. and Michigan in the future. Thus, the data are eminently clear: a diverse and expertly-skilled STEM workforce and U.S. global economic competitiveness are inextricably linked. The same is true for achieving economic prosperity in the State of Michigan.

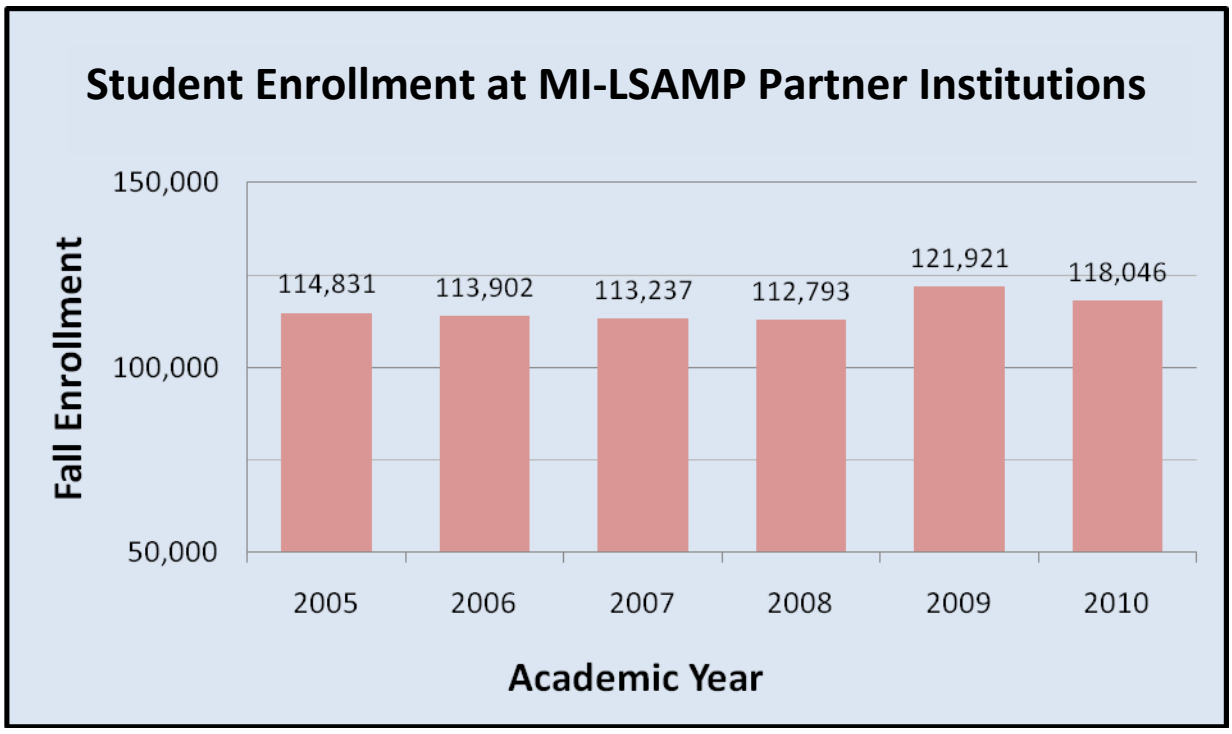


Figure 1: Combined fall enrollment at the University of Michigan, Michigan State University, Wayne State University, and Western Michigan University, 2005-2010.

MI-LSAMP Establishes High-Impact "Best" Practices

To address the challenges and achieve the goals in Michigan, the newly-formed MI-LSAMP consortium set about designing and implementing alliance-wide programmatic initiatives that would establish the high impact, or "best", practices for increasing the quality and number of URM STEM discipline degree earners. From these initiatives, four (4) highly effective, evidence-based, practices were identified (will be discussed): 1) summer bridge programs; 2) STEM cohort and community building programs; 3) STEM career exploration programs; and 4) faculty-mentored undergraduate research programs.

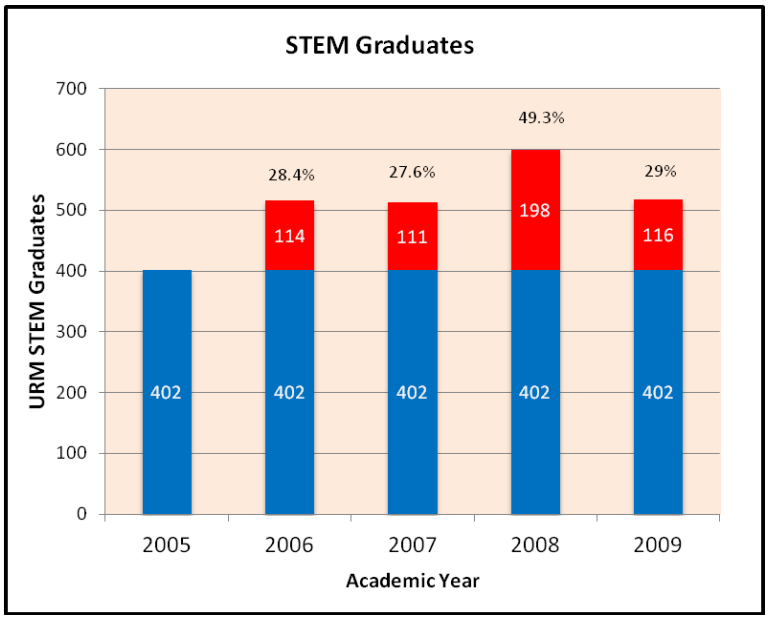


Figure 2: URM STEM degree attainment at MI-LSAMP partner institutions.

- baseline
- additional degrees awarded above the baseline

Pre-First Year Summer Programs

Using established program models, such as the Professionals-in-Training Program[(1)] (PTP) at the UM, the MI-LSAMP successfully implemented programs on three MI-LSAMP partner campuses. Pre-first year summer programs represent one of the most effective strategies for improving academic performance and graduation rates (Dabney, 2002; Moore, 2007) by helping students acquire effective study strategies and methodologies—within the context of intensive short-term discipline-based coursework. Students were exposed, particularly, to material they would encounter in their most critical first year classes.

Academic preparation is only one factor in ensuring retention until graduation. In addition to discipline-based (math, science, engineering and communication) academic preparation and enrichment, the pre-first year programs were also designed to ensure that students were able to confidently navigate the larger out-of-classroom institutional environment. These included team projects, meetings with their academic advisors and support staff and scavenger hunts to familiarize the students with their campus (Muraskin et al., 2004). Each program was uniquely tailored to the conditions and culture of its home campus. However, consistent across the alliance, all students took courses in science, mathematics and technical communications. Each program was staffed by faculty, graduate students and upper-division undergraduate students creating valuable networking opportunities for the students. Table 1 shows the programs implemented by the MI-LSAMP during Phase I.

Student Quotes:

"Engineering is not linear"

"There are female engineers!"

"All knowledge is related and important"

"Engineering is creative and ever-changing"

"Communication is important"

"Science, math, and engineering are essential for my success"

All Students Day at Western Michigan University

Table 1: MI-LSAMP Pre-First Year Summer Programs (2005-2010)

University	Program	Housing	STEM Focus
University of Michigan[2][3]	Professionals in Training	Residential	Engineering
	Michigan Math and Science Scholars	Residential	Math and Science
	Michigan Science, Technology, Engineering and Mathematics Academy	Residential	Engineering
Michigan State University	Engineering and Science Summer Academy	Residential	Engineering and Science
Wayne State University	Engineering Pre-First Year	Commuter	Engineering
Western Michigan University	Science Pre-First Year	Residential	Science

[2] The University of Michigan (UM) offered three different programs that emphasized STEM topics: The Michigan Science, Technology, Engineering, and Mathematics (M-STEM) Academy was held during the summers of 2008, 2009, and 2010. The Michigan Math and Science Scholars (MMSS) program was held in 2006, 2007 and 2008. The Professionals-in-Training Program (PTP) program was held in 2006, 2007, 2009, and 2010.

[3] There was also a Professionals-in-Training (PTP) program at the Atlanta University Center during the summer of 2009 *using non-NSF funds*. Twelve African American male students from Morehouse College and 1 African-American male student from Clark Atlanta University participated in this program.

Table 2: Pre First Year Summer Programs Participation by Year, Gender and Ethnicity

Year	Black or African American		Hispanic American		Asian		White		Native American		Race not reported		All students		
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	Total
2006	20	10	12	4	2	3	0	0	2	0	1	0	37	17	54
2007	40	24	10	4	7	4	9	9	1	1	3	0	70	42	112
2008	44	33	9	3	4	1	5	5	1	0	2	0	65	42	107
2009	46	36	13	12	7	2	15	3	1	3	1	2	83	58	141
2010	50	25	7	0	3	4	13	12	2	0	0	0	75	41	116
Total	200	128	51	23	23	14	42	29	7	4	7	2	330	200	530

As a result of participating in a Pre-First Year Summer Program, MI-LSAMP Scholars stated that they were better prepared for their first year in college than their friends who were not involved in LSAMP; were able to establish networks of support among fellow students and university faculty and staff; and, saw a significant value in the program as a way to give them a

"head start" on their college career. Of the students interviewed, 94% stated that they would recommend the program to a friend, and 95% indicated that they still had some contact with other students who participated in the program with them.

IMPACT: **Students are more actively engaged and take responsibility for their learning.**

According to the Final Evaluation Report for the Michigan-Louis Stokes Alliance for Minority Participation (2005-2010), "the Pre-First Year summer programs are clearly one of the major strengths of the MI-LSAMP". From 2006 to 2010 a total of 530[(4)] students participated in one of six (6) programs hosted by the four university partners. When asked to describe how their new, or improved skills, learned during the program will be of value to their college success, students most often responded: "these skills will help me in the future with college and with classes." Other common responses were: will help with my future job or career; help to think differently; and help better manager my time, and help study better.

Cohort and Community Building Programs

Students usually look to their peers for help before they reach out to faculty or staff (Brahmia & Etkina, 2001). However, according to Tinto (1993), when students become actively involved in their academic community some students experience what is often referred to as "gaining a voice in the construction of knowledge" (p. 184). Finding themselves for the first time in a learning setting that requires their active involvement, students discover a voice that they or others may not have previously heard or recognized.

When asked to report on the three most important things a student should do to be academically successful one African American female stated: "Never underestimate the difficulty of your university, but most importantly never underestimate yourself."

All Students Day is an annual, day-long, alliance-wide convening of MI-LSAMP Scholars that, through team-building activities, promotes intra-campus (cohort) and inter-campus (community) encouragement and cohesiveness. All Students Day occurs midway during the run of the Alliance's summer bridge program. Students at one of the alliance campuses plan, organize, and host the annual event. Activities include teams of students from each campus collaborating to strategize and develop creative solutions to analytic and problem-solving challenges.

Mattering is defined as "the receipt of consistently positive messages from peers, faculty and staff" and it "confirms for an undergraduate that she or he belongs in college and has the capacity to do well" (Harper et al., 2005, p. 395). The All Students Day is one of the MI-LSAMP activities that encourages students and reinforces that they matter, that they are sufficiently capable to meet the academic and non-academic challenges of college and a STEM curriculum, and that they belong at their institution. Table 3 displays the responses of students regarding the usefulness of the All Students Day. According to the report - *Findings from a Review of Data*

Collected About the University of Michigan, Michigan State University, Wayne State University, and Western Michigan University Michigan Louis Stokes Alliance for Minority Participation (MI-LSAMP) Project—2005-2010, on the 2009 and 2010 surveys, students were asked to rate the usefulness of the All-Student Day activities on a 5-point scale, with 1 = low score and 5 = high score. The mean rating in 2010 (4.01) was higher than the mean rating in 2009 (3.44). This suggests that facilitators made significant improvements from 2009 to 2010 at making the All-Students Day activities useful to students.

Students participating in building a human machine exercise at All Students Day at Michigan State University

In late September and early October of 2010, students who participated in a Pre-First Year program at any point were asked to participate in a follow-up telephone interview. A total of 21 responded to the request for an interview. Students were asked a variety of questions regarding their experience participating in the MI-LSAMP. When asked if they had any continued contact or communication with other students who attended the summer programs twenty students (95%) indicated that they still had at least some contact with other students, including 6 (29%) who stated that they saw other students frequently, daily, or all the time. Ways that students stayed in contact with each other included: via the Internet, via online social networks (Facebook, etc.), via Skype, email, shared classes and study groups, and by casually running into them on campus. One student said, "One of them became my roommate."

IMPACT: **Students realize that the contributions they make from their cultural perspective are important.**

Bottom: All Student Day at the University of Michigan
Right: All Students Day at Michigan State University

Table 3: Responses - Rate the Usefulness of the All Students Day Activities (2009 and 2010)

Year	Number of Responses					n	Mean	S.D.
	1	2	3	4	5			
2009	10 -10%	14 -14%	18 -18%	35 -36%	21 -21%	98	3.44	1.261
2010	1 -1%	2 -2%	25 -26%	37 -38%	33 -34%	98	4.01	0.897

Top: All Students Day at Michigan State University

Bottom: All Students Day at the University of Michigan

STEM Career Exploration Programs

Students who participate in career oriented activities tend to persist to graduation (Hargrove & Sedlacek, 1997; Astin & Sax, 1998). MI-LSAMP encourages underrepresented students to utilize the resources of the office of career services on their campuses. These resources range from resume critiquing, job interview role playing and manner/etiquette workshops. In addition, MI-LSAMP facilitates students' exploration of career options and opportunities through its **Corporate Tours/Corporate Corners** program. An additional impact of the Corporate Tours/Corporate Corners program is that it confirms for students that their career goals are realistic and obtainable. The program provided opportunities for students to network with prospective employers–while exploring various STEM professions within the corporate environment. See Table 4 for the list of companies that participated in the Corporate Tours/Corporate Corners program during Phase I.

IMPACT: **Students are better prepared for the career fairs by participating in the Corporate Tours/Corporate Corners.**

The MI-LSAMP students who participated in the Corporate Tours/Corporate Corners have an advantage over the other students as they are already familiar with these companies when they come to campus to recruit for co-op, internship, and permanent employment during career fairs. They may have had informal discussions with the recruiters. As a result of participating in this activity the students are also able to see the connection between what they have learned in the classroom and how it can be applied to the real world. Because the participants from all four institutions spend a week together, they learned more about each other, networked and continued to stay connected throughout their academic experience. It is through this connectedness that they peer mentor each other, provide both academic and environmental/social assistance and hold each other accountable.

MI-LSAMP students participating in the Corporate Tour
Top: Steelcase
Right: Detroit Edison

Table 4: Companies Participating in the Corporate Tours/Corporate Corners

COMPANY	LOCATION	STEM FIELD(S)
Arvin Meritor	Michigan	Mechanical
BASF Chemical	Michigan	Chemical
BP	Texas	Chemical
Cummins	Indiana	Mechanical/Industrial Operations
Chrysler	Michigan	Mechanical/Industrial Operations
Detroit Water & Sewage	Michigan	Environmental
Dow Corning	Michigan	Chemical
DTE Energy	Michigan	Electrical
Ford Motor Company	Michigan	All engineering fields
General Electric	Michigan	Electrical/Computer Science
General Motors	Michigan	Electrical/Mechanical/Chemical
Harris	New York	Electrical
HC Nutting Co	Ohio	Civil /Environmental
Kohler	Wisconsin	All engineering fields
Motorola	Illinois	Mechanical/Electrical/Computer Science
Owens-Corning	Ohio	IOE/Materials Science
Perrigo, Inc.	Michigan	Chemical and Engineering Management Technology, and Manufacturing Engineering Technology
Post Foods	Michigan	Chemical/Industrial and Engineering Management Technology
Procter and Gamble	Ohio	Electrical, Mechanical, Civil, Chemical, Manufacturing, Industrial and Computer Science Engineering
Rockwell Automation	Michigan	Mechanical
Siemens	Illinois	All engineering fields
Steelcase	Michigan	All engineering fields
TARDEC	Michigan	Mechanical/Electrical
USG Paper Mill	Michigan	Chemical/Paper

Undergraduate Research

Research has consistently pointed to undergraduate research experiences as a powerful tool to attract and retain students in science majors, promote graduate school aspirations, and serve as a pathway toward careers in science (Hurtado et al., 2009). For students, participating in an authentic research experience is a necessary and important step in preparing them for graduate school (Foertsch, Alexander & Penberthy, 2000).

Summer Undergraduate Research Academy The MI-LSAMP Summer Undergraduate Research Academy (SURA) was designed to provide a comprehensive research training experience for students. Through this program, students experienced a multidisciplinary introduction to research. Each student participant was partnered with a faculty research mentor to conduct a research project in the faculty mentor's lab. Faculty mentors worked closely with their students directing their continued growth and development in knowledge of research and proficiency. The Summer Undergraduate Research Academy (SURA) was implemented in 2008 at Michigan State University and at Wayne State University in 2009. During the 2009 SURA, Michigan State collaborated with the College of Natural Sciences Drew Laboratory. Wayne State University collaborated with Department of Chemistry and the Department of Computer Science. The Associate Dean for Research for the College of Engineering assisted in the recruitment of faculty for the 2009 SURA. As an additional means of collaboration, Wayne State University's MAA provided funding to support 3 upper level undergraduate students to participate in Wayne State University's SURA. Wayne State teamed with the Wayne State McNair Scholars Program for the national McNair Scholars Program two day conference. The SURA students did oral and poster presentations to an audience of over 100 people. Students were asked to describe how their involvement in research affected their college work. Their responses included: it helped them to focus, it prepared them, it put them ahead of everyone else, it taught them time management, it taught them the importance of focusing on detail, and it helped them to work independently. They were also asked to describe how their involvement in research affected their plans for an advance degree. The students stated that it gave them the skills or knowledge that they need to pursue an

> "Participating in the [summer research] academy was a great opportunity. I got the chance to conduct research in my field of interest . . . and the experience looks good on my resume." SURA Participant

Maurice Simms, Chemical Engineering Student at the University of Michigan

advanced degree and it influenced them by getting them to think about their future, giving them knowledge of what to expect, or "swaying" them or helping them to make this decision.

IMPACT: **Students who participate in research are better prepared for graduate school and the global work place.**

The students who participated in the end of Phase I follow-up interviews indicated that the Summer Undergraduate Research Academy had a strong impact on their plans to attend graduate school. Between 2007 and 2010, 163 participated in MI-LSAMP supported research (Table 5). The majority of the students who participated in the MI-LSAMP during 2005-2010 will graduate during the Phase II (2010-2015). Data from the exit surveys will be used to determine the number of students who actually attend graduate school versus those who enter the workforce.

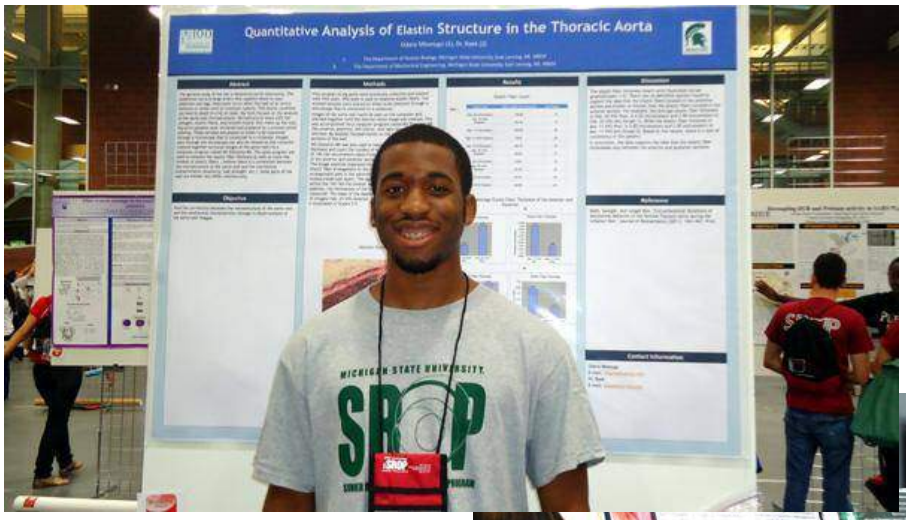
Table 5: MI-LSAMP Scholars Participation in Research by Year, Gender and Ethnicity

Year	Black or African American		Hispanic American		Asian		White		Native American		Race not reported		All students		
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	Total
2007	9	6	2	1	0	2	0	1	0	0	0	0	11	10	21
2008	24	20	4	0	1	0	1	4	0	0	0	0	30	24	54
2009	23	13	3	1	1	1	3	1	0	0	0	1	30	17	47
2010	22	9	3	1	3	2	0	0	0	0	1	0	29	12	41
Total	78	48	12	3	5	5	4	6	0	0	1	1	100	63	163

Undergraduate Research Symposia

Lou Anna K. Simon, President, Michigan State University, talking with a student during the Poster Session at the MI-LSAMP Celebration.

SURA



Odera Mbanugo, MSU SURA student participating in the CIC Summer Research Opportunity Program (SROP) Research Symposium.

Poster Session at the Undergraduate Research Symposium at Wayne State University.

Elizabeth A. Caliman presented in Research on the Hill in July 2010. She also participated in SURA.

Jeremy D. Brown participated in research abroad at Shanghai Jiao Tong University in Shanghai China. Jeremy is currently a doctoral candidate in mechanical engineering at the University of Michigan as a Rackham Merit Fellow and a National Science Foundation Gradate Research Fellow.

Moving Forward – Engaging Community Colleges

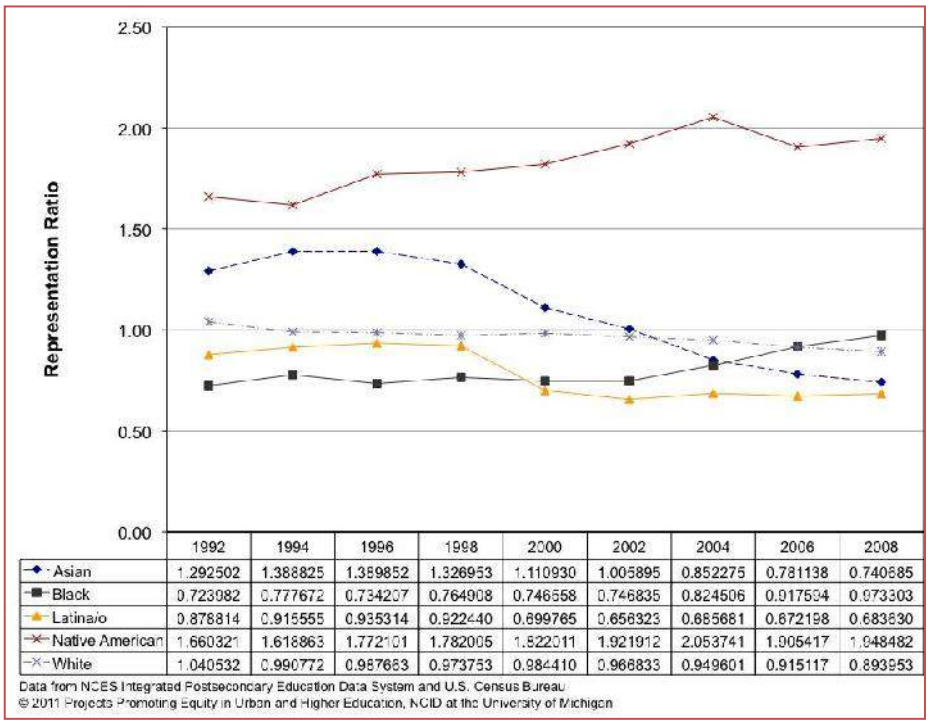
PHASE II

Expanding *Michigan*–LSAMP

Why Engage Community Colleges

On Thursday, February 3, 2011 the MI-LSAMP celebrated the renewal of their grant. While the MI-LSAMP has been successful thus far in achieving its mission goals, to fully realize the greater program goals it must expand its reach and alliance. To expand the STEM pipeline beyond the four university partners, MI-LSAMP established a goal of building partnerships with community colleges throughout Michigan. Nationally, community colleges enroll nearly fifty percent of all undergraduates in the United States. A 2009 study conducted by the Pew Research Center revealed the fastest growth of postsecondary college enrollment is at community colleges. In addition, in terms of access and diversity, community college enroll 55 percent of undergraduate Hispanic students, 47 percent of African American and Asian students, and 57

percent of all Native American undergraduate (College Board, 2009). Moreover, NSF reports 50 percent of African Americans, 55 percent of Latinos and 64 percent of American Indian who hold bachelor's or master's degrees in science or engineering had attended a community college (NSF, NCSES, 2011).



	1992	1994	1996	1998	2000	2002	2004	2006	2008
Asian	1.292502	1.388825	1.389852	1.326953	1.110930	1.005895	0.852275	0.781138	0.740685
Black	0.723982	0.777672	0.734207	0.764908	0.746558	0.746835	0.824506	0.917594	0.973303
Latino/o	0.878814	0.915555	0.935314	0.922440	0.899765	0.656323	0.685681	0.872198	0.683830
Native American	1.660321	1.618863	1.772101	1.782005	1.822011	1.921912	2.053741	1.905417	1.948482
White	1.040532	0.990772	0.987683	0.973753	0.984410	0.966833	0.949601	0.915117	0.893953

Data from NCES Integrated Postsecondary Education Data System and U.S. Census Bureau
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Figure 3: Racial/Ethnic Representation in Michigan Public Two-Year Postsecondary Institutions as a Proportion of the State Population

In Michigan, African Americans are better represented as a percentage of the population in community colleges than in four-year colleges. By 2008, African Americans enrolled in community colleges at 97% of their representation in the state's population, improving substantially since 1992 (Figure 3). Collectively, under-represented minorities accounted for 24 percent of the total fall 2010 student enrollment at Michigan community colleges (Figure 4).

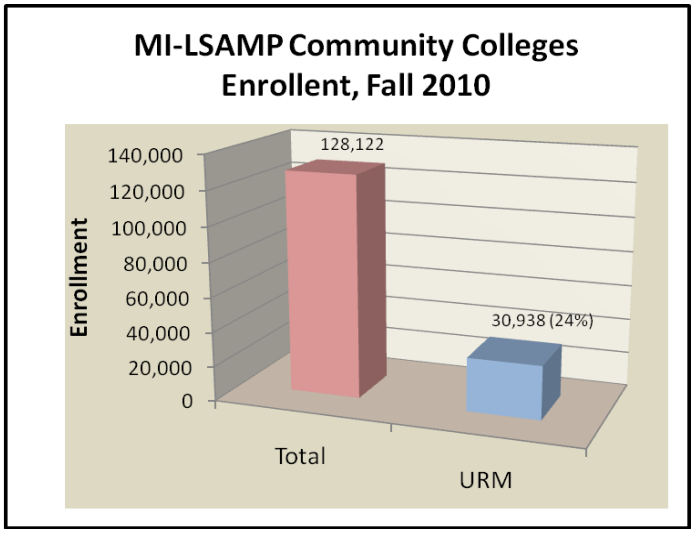


Figure 4: Total and URM enrollment at MI-LSAMP community college institutions.

In light of the broad challenges (Figure 5) in the state of Michigan and nationally, the MI-LSAMP intensified its efforts and expanded its scope to include nine community colleges during Phase II (2010-2015). Collaborating and partnering with the selected nine community colleges will significantly increase the number of enrolled students who have the potential to earn STEM baccalaureate degrees. Community colleges are becoming the preferred starting point for many students who would, under better economic conditions, chose to attend 4-year universities. The nine community colleges, Grand Rapids Community College, Kalamazoo Valley Community College, Kellogg Community College, Lake

Michigan College, Lansing Community College, Macomb Community College, Muskegon Community College, Washtenaw Community College and Wayne County Community College District also have as part of their mission to educate those who were not adequately prepared in high school for the rigors of a 4-year institution and providing workforce training. As a consequence of this level of access and opportunity, community colleges enjoy greater diversity than 4-year institutions.

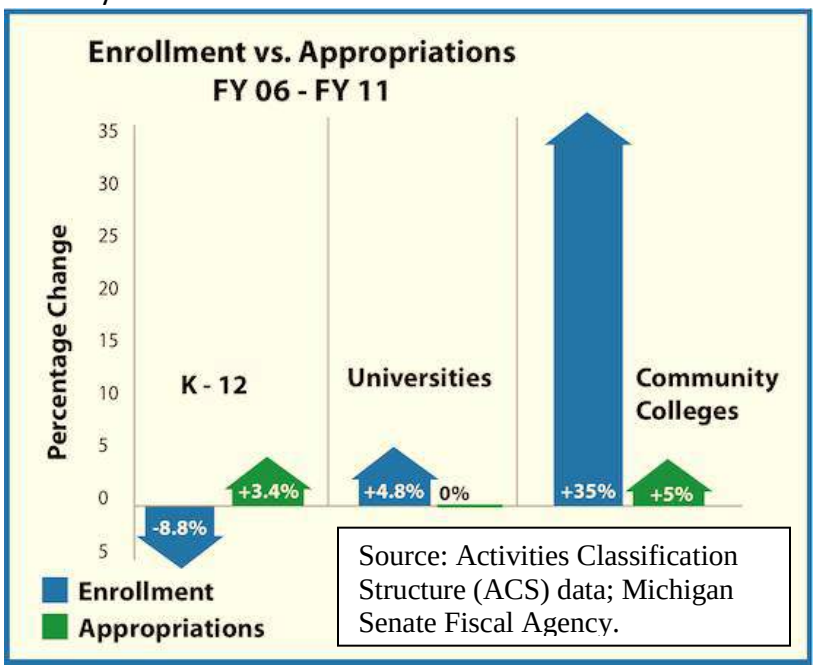


Figure 5: Michigan community college enrollment and appropriations

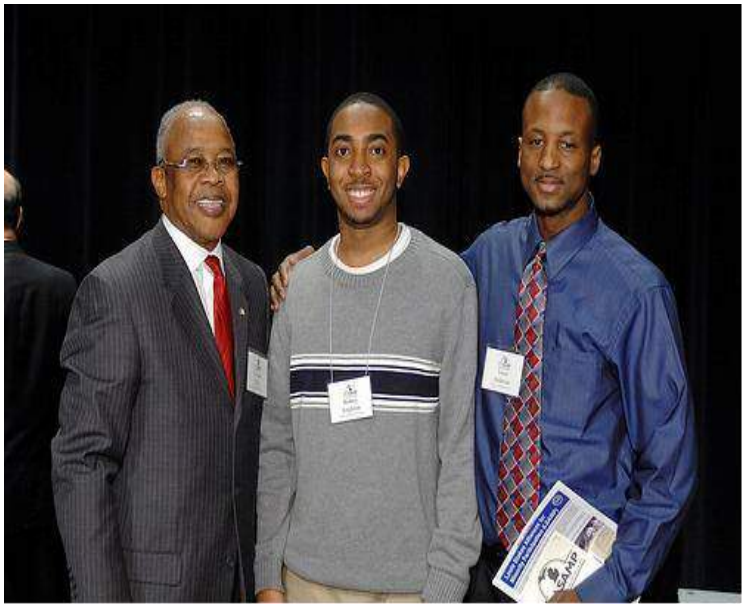
In light of the economic challenges (Figure 5) in the state of Michigan and nationally, the MI-LSAMP intensified its efforts and expanded its scope to include nine community colleges during Phase II (2010-2015). Collaborating and partnering with the selected nine community colleges will significantly increase the number of enrolled students who have the potential to earn STEM baccalaureate degrees. Community colleges are becoming the preferred starting point for many students who would, under better economic conditions, chose to attend 4-year universities. The nine community colleges, Grand Rapids Community College, Kalamazoo Valley Community College, Kellogg Community College, Lake Michigan College, Lansing Community College, Macomb Community College, Muskegon Community College, Washtenaw Community College and Wayne County Community College District also have as part of their mission to educate those who were not adequately prepared in high school for the rigors of a 4-year institution and providing workforce training. As a consequence of this level of access and opportunity, community colleges enjoy greater diversity than 4-year institutions.

Community College Impact

In Michigan, community college enrollment has increased more than 35% since 2006 (Figure 5), while state appropriation for community colleges has increased only 5% over the same period. Moreover, underrepresented minority students make up a significant portion of the community college population (Figure 4). **MI-LSAMP will help mitigate the under-resourcing at its partner community colleges by leveraging limited resources from across the alliance for—synergistic impact.**

Celebrating the MI-LSAMP – February 3, 2011

On February 3, 2011, officials from NSF joined university and college administrators, faculty, students, and state officials from across Michigan in celebrating the addition of nine community colleges to MI-LSAMP. Dr. Dedric A. Carter, Senior Advisor for Strategic Initiatives and Dr. A. James Hicks, LSAMP Program Director, extended greetings on behalf of NSF to the audience of 160. The celebration was hosted by Lansing Community College, and its president, Dr. Brent Knight. Dr. Knight joined the presidents from the partner institutions in emphasizing the important role the newly expanded alliance will play in broadening opportunity to students at community colleges.



Dr. A. James Hicks, talking with Rodney Singleton, a graduate student at Michigan State University, and Yusuf Anderson, an undergraduate student at Wayne State University during the MI-LSAMP Celebration on Thursday, February 3, 2011. This event was hosted by one of the Phase II MI-LSAMP partners – Lansing Community College

Brent Knight
President
Lansing Community College

Mary Sue Coleman, President
University of Michigan
Principal Investigator, MI-LSAMP

A. James Hicks, LSAMP Program Director
National Science Foundation

Lou Anna K. Simon, President
Michigan State University

John M. Dunn, President
Western Michigan University

Hilary Horn Ratner, VP for Research
Wayne State University

Lester P. Monts, Senior VP for Academic Affairs
University of Michigan

Dedric A. Carter, Senior Advisor for Strategic
Initiatives - National Science Foundation

MI-LSAMP Leadership

Principal Investigator - Dr. Mary Sue Coleman, President, University of Michigan
Co-Principal Investigator - Dr. Levi T. Thompson, Richard E Balzhiser Collegiate Professor of Chemical Engineering and Director, Hydrogen Energy Technology Laboratory, College of Engineering, University of Michigan
Co-Principal Investigator - Dr. Thomas F. Wolff, Associate Dean for Undergraduate Studies, College of Engineering, Michigan State University
Co-Principal Investigator - Dr. Gerald O. Thompkins, Associate Dean for Student Affairs, College of Engineering, Wayne State University
C-Principal Investigator - Dr. Edmund Tsang, Associate Dean for Undergraduate Programs, College of Engineering and Applied Sciences, Western Michigan University

Executive Director
Dr. Jerry Caldwell, Director, Charles Drew Science Scholars, College of Natural Science, Michigan State University

Alliance Programs Coordinator
Dr. Elaine M. Dowell, Program Manager, Transfer Student Support and Graduate Student Initiatives, College of Engineering, University of Michigan

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Dr. Kim A. Wilcox, Provost and Vice President for Academic Affairs, Michigan State University
Dr. Nancy S. Barrett, Provost and Senior Vice President for Academic Affairs, Wayne State University
Dr. Timothy J. Green, Provost and Vice President for Academic Affairs, Western Michigan University
Dr. Gilda G. Gely, Provost/Executive Vice President for Academic and Student Affairs

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Dr. Gerald O. Thompkins, Associate Dean for Student Affairs, College Of Engineering, Co-PI, Wayne State University

Dr. Edmund Tsang, Associate Dean for Undergraduate Programs, College of Engineering and Applied Sciences, Co-PI, Western Michigan University
Derrick E. Scott, Director, Multicultural Engineering Programs Office, University of Michigan
Dr. Kathy Burgis, Chair, Mathematics and Computer Science Department, Lansing Community College
Donnell Mason, District Dean of Enrollment Management and Records, Wayne County Community College District
Pat Hill, Physical Therapist Assistant - Program Director, Washtenaw Community College
Robert Westdorp, Chair, Math and Science Department, Kellogg Community College

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Michelle Reaves, Assistant Director, Pre-College/Outreach Programs, College of Engineering, Wayne State University
Dr. Andrew Kline, Associate Professor, College of Engineering and Applied Sciences, Western Michigan University

Community College Representatives

Dr. Gilda Gely, Provost/Executive Vice President for Academic and Student Affairs, Grand Rapids Community College
Dr. Bruce Kocher, Vice President for Academic Services, Kalamazoo Valley Community College
Robert Westdorp, Chair, Math and Science Department, Kellogg Community College
Charles Olszewski, Faculty, Computer Information Systems, Lake Michigan College
Dr. Kathy Burgis, Chair, Mathematics and Computer Science Department, Lansing Community College
Donna M. Petras, Director of Community Relations, Macomb Community College
Dr. John W. Bartley, Chair, Math /Science Department, Muskegon Community College
Pat Hill, Program Director, Physical Therapist Assistant, Washtenaw Community College
Donnell Mason, District Dean of Enrollment Management and Records, Wayne County Community College District

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Endnotes

[1]The Professionals-in-Training (PTP) is a pre-first year summer residential program for students at the University of Michigan. The curriculum emphasizes academic, personal and professional success and is structured to provide classes in mathematics, computer programming, communication skills, and introduction to engineering. The PTP has been in existence for over 25 years and is one of the "branded" programs in the College of Engineering.
Historically underrepresented minority students participating in this program graduate with baccalaureate degrees in engineering at a higher rate than those students who do not participate.

[2]This number includes the 13 students who participated in a non-NSF funded pilot program (PTP@AUC) at the Atlanta University Center during the 2009 summer. The program was modeled after the PTP at the University of Michigan.


MI-LSAMP
LOUIS STOKES ALLIANCE FOR MINORITY PARTICIPATION