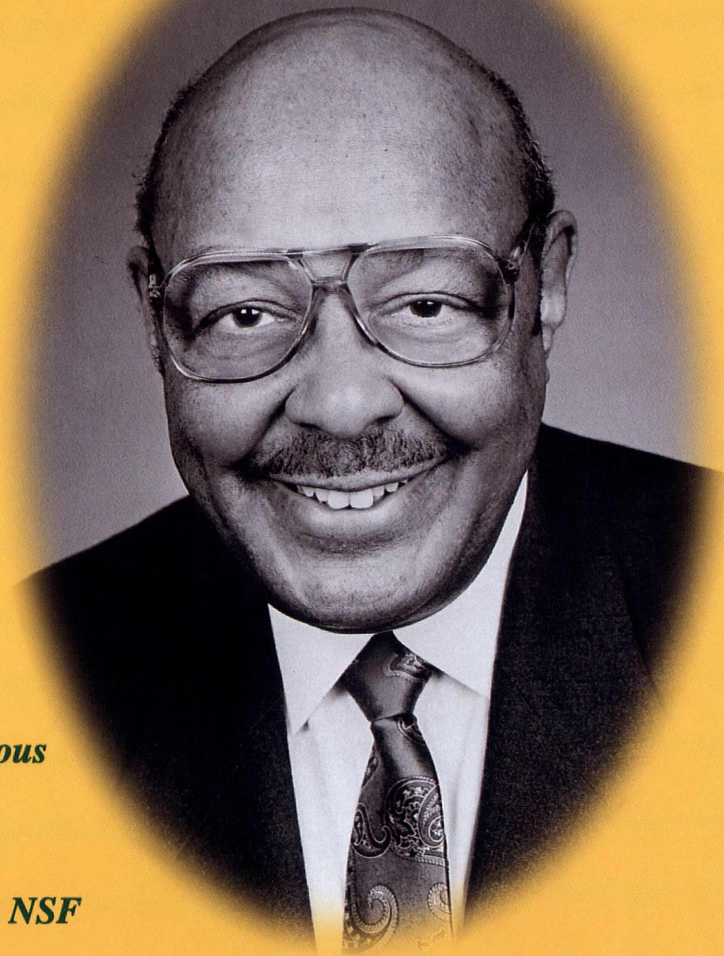


**Achieving Linkages  
in the  
Continuum of Diversity Programs**



- *Profile of a Courageous  
Congressman*  
Page 1
- *The Quiet Warrior at NSF*  
Page 7

**The National Science Foundation  
Louis Stokes Alliances for Minority Participation  
Magazine**

**1999**

★ **Louis Stokes Issue** ★



This magazine was published by Alabama AMP and The University of Alabama at Birmingham through the cooperative efforts of the Alabama, California, California State, Chicago, Colorado, Florida-Georgia, Heartland's, Louisiana, University System of Maryland, Mid-South, Mississippi, Metropolitan, All-Nations, New Mexico, New York City, North Carolina, Oklahoma, Greater Philadelphia Region, Puerto Rico, South Carolina, SUNY, Texas A&M, University of Texas System, Washington-Baltimore-Hampton Roads, Western Alliance, Xavier Alliances for Minority Participation as a supplement to existing NSF and local AMP publications. All rights are reserved by the Alliances.

**Editor**

Dr. Louis Dale  
University of Alabama at  
Birmingham

**Associate Editor**

Dr. M. Carolyn Braswell  
University of Alabama at  
Birmingham

**Contributing Editors**

Dr. Nicolaos G. Alexopoulos  
California

Dr. Alfonso Ratcliffe  
California State

Dr. Marian Wilson-Comer  
Chicago

Dr. Omnia El-Hakim  
Colorado

Dr. Lynette P. Padmore  
Florida-Georgia

Dr. Charles Sampson  
Heartland's

Dr. Robert L. Ford  
Louisiana

Dr. Freeman A. Hrabowski, III  
University System of Maryland

Dr. Hanley Abramson  
Metropolitan Detroit

Dr. Jesse McClure  
Mid-South

Dr. Richard Sullivan  
Mississippi

Dr. Joseph McDonald  
All Nations

Dr. Richard Jaquez  
New Mexico

Dr. Neville A. Parker  
New York City

Dr. Harold L. Martin  
North Carolina

Dr. Earl Mitchell  
Oklahoma

Dr. Corrinne Caldwell  
Greater Philadelphia Region

Dr. Manuel Gomez  
Puerto Rico

Dr. Craig Rogers  
South Carolina

Dr. David L. Ferguson  
SUNY

Dr. Karan L. Watson  
Texas

Dr. Pablo Arenaz  
University of Texas System

Dr. Clarence M. Lee  
Washington-Baltimore Hampton Roads

Dr. Antonio A. Garcia  
Western Alliance to Expand Student Opportunities

Dr. Leonard Price  
Xavier

**Publication Technicians**

UAB Print Shop

Printed by Alabama AMP  
at  
The University of Alabama at  
Birmingham

# Table of Contents

Profile of a Courageous Congressman..... 1

Summary of Programs Sponsored by Congressman Louis Stokes..... 2

AMP Program Re-Named for Congressman Louis Stokes..... 3

A Continuum of Human Resource Development Programs..... 4

The Diversity Programming Managers ..... 6

LSAMP SMET Minority BS Degree Production ..... 7

The Quiet Warrior at NSF ..... 8

Highlights and Accomplishments..... 11

Linkages with Programs in the Diversity Continuum..... 21

## Alliance Descriptions

Alabama ..... 26

California..... 27

California State..... 28

Chicago..... 29

Colorado ..... 30

Florida-Georgia ..... 31

Heartland's ..... 32

Louisiana ..... 33

University System of Maryland ..... 34

Metropolitan Detroit..... 35

Mid-South..... 36

Mississippi..... 37

All-Nations ..... 38

New Mexico ..... 39

New York City ..... 40

North Carolina..... 41

Oklahoma ..... 42

Greater Philadelphia Region ..... 43

Puerto Rico..... 44

South Carolina..... 45

SUNY ..... 46

Texas..... 47

University of Texas System..... 48

Washington-Baltimore-Hampton Roads ..... 49

Western Alliance ..... 50

Xavier ..... 51

Directory ..... 52



# ★ Profile of a Courageous Congressman ★



## From The Congressional Record

- ★ Elected to the U.S. Congress on November 6, 1968, becoming the first African American Member of Congress from the State of Ohio
- ★ Elected as the first African American to win a seat on the House Appropriations Committee in 1971
- ★ Elected in 1972 as Chairman of the Congressional Black Caucus, serving two consecutive terms in this office
- ★ Appointed in 1977 Chairman of Select Committee on Assassinations; first African American to lead an investigative committee; conducts historic hearings examining the murders of President John F. Kennedy and Dr. Martin Luther King, Jr.
- ★ Appointed in 1980 to the House Ethics Committee; served four years as Chairman; leads panel during congressional page scandal, ABSCAM, and investigation of Presidential candidate Geraldine Ferraro
- ★ Appointed in 1983 to the House Permanent Select Committee on Intelligence, becoming the first African American to serve on this panel; he later becomes Chairman of the Committee, serving in this capacity during the Iran Contra Panel
- ★ Assumed Chairmanship of Appropriations Subcommittee on VA-HUD-Independent Agencies in 1993
- ★ Recipient of numerous honorary degrees and countless other distinctions
- ★ Upon retirement after 30 years in the House of Representatives, had served under six Presidents and became the first African American to retire, having completed 30 years of service



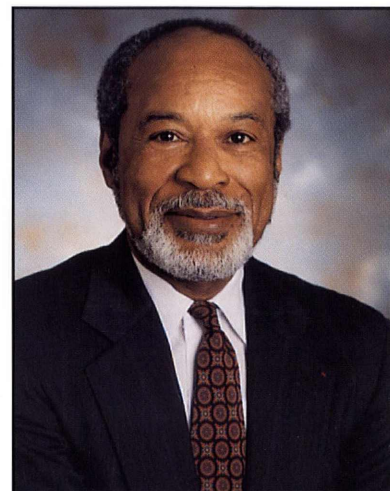
## Summary of Programs Sponsored by Congressman Louis Stokes

*“For a period of 30 years, Congressman Stokes has lead pioneering efforts for minority health; the education of minority health professionals, minority science and engineering professionals at the associate, undergraduate and graduate degree levels; the address of science and engineering infrastructure for research and education at HBCUs; and K-12 mathematics and science education programs focusing on state, urban and rural school districts with significant minority enrollments.”*

Dr. Luther Williams, Assistant Director

Some of the programs for which he served as the architect and sustained sponsor/advocate are listed below:

- ★ 1973 Minority Access to Research Careers (MARC) Program, National Institutes of Health (NIH)
- ★ 1972 Minority Biomedical Support (MBRS) Program, NIH
- ★ 1985 Research Centers of Excellence in Minority Institutions-focused on the biomedical sciences, (NIH)
- ★ 1989 Creation of the Office of Minority Health and Research, NIH
- ★ 1989 Centers of Research Excellence in Science and Technology (CREST), National Science Foundation (NSF)
- ★ 1991 Alliance for Minority Participation (AMP) Program, NSF
- ★ 1993 K-12 Summer Science Camps Program, NSF
- ★ 1993 Urban Systemic Initiatives Program (USI), NSF
- ★ 1993 Research Centers on Violence, NSF
- ★ 1997 (Minority) Health Professionals Training Act, NIH
- ★ 1998 Minority Graduate Education Program (MGE), NSF
- ★ 1999 AMP Program re-named the Louis Stokes AMP Program



Dr. Luther Williams,  
Assistant Director



## AMP Program Re-named for Congressman Louis Stokes

***T**hrough Congressional Action, the AMP program has been re-named The Louis Stokes Alliances for Minority Participation (LSAMP) program. Former Congressman Stokes is a longtime and consistent supporter of minority programs. This action is effective immediately!”*

Dr. A. James Hicks, NSF Program Director

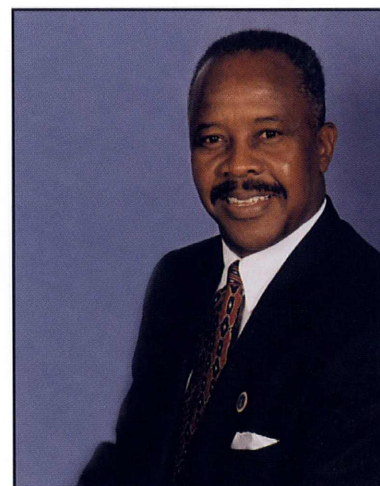
The announcement was sent via e-mail to all AMP Project Directors, managers, and staff to set in motion the “new look” for the AMP program. Outsiders began asking the question, why the name change? Insiders knew the answer and were not surprised. Congressman Louis Stokes, for 30 years, has been a leading supporter and pioneer of congressional efforts to improve minority health and education. He is well known at NSF and NIH for his sponsorship of programs for minority health professionals and minority science and engineering professionals.

The House Appropriation FY 1999 Budget Recommendations included the following:

The National Science Foundation has made considerable progress with its state, urban, and rural systemic initiatives designed to promote reform of K-12 math and science education. Early results show significant math and science student achievements in NSF funded sites. The Committee believes each program should be sustained as appropriate and in particular, the Urban Systemic Initiative should be fully funded in fiscal year 1999.

The Committee notes the national model for which the Alliance for Minority Participation program has become for producing minority scientists and engineers. This very important national initiative should be sustained as well as the K-12 programs that serve as feeders to it. One initiative of the program, the summer science camp program, serves as a stimulant for interest in math and science and is the foundation for future interest in this subject area.

It is highly appropriate and fitting that the NSF Alliances for Minority Participation program be renamed The Louis Stokes Alliances for Minority Participation program.



*Dr. A. James Hicks,  
NSF Program Director*



# A Continuum of Human Resource Development Programs

The programs listed below are included in the Continuum of Human Resource Development Programs implemented to address the nation's critical need for a new generation of scientists and engineers.

## Minority Graduate Education Program

The goal of the MGE program is to increase the number of minority students pursuing advanced study, obtaining doctoral degrees, and entering the professoriate in SMET disciplines. Institutions participating in this program are expected to engage in comprehensive cultural change that will lead to a sustained increase in the conferral of SMET doctoral degrees significantly exceeding historic levels of performance. Institutional commitment will be assessed with respect to the willingness and ability of participating institutions to align relevant financial and operational resources to the goals articulated by this program. To ensure commitment and the potential for success, the Chief Academic Officer (or an appropriate designee) should serve as Principal Investigator (PI) with Deans of Engineering and Arts and Sciences serving as co-PIs.

### **MGE projects are expected to demonstrate:**

- knowledge of those factors affecting the successful transition of minority students from undergraduate through graduate study and career entry in SMET fields;
- prior success in dealing with affective (nonacademic) components of graduate education that are necessary to ensure success of minority students in obtaining SMET doctoral degrees;
- a potential for successfully aligning similar existing programs (NSF-supported or otherwise) within, or outside of, the institution to ensure a comprehensive, integrated effort; and,
- the ability to provide quality educational and research opportunities that will prepare students

for successful SMET careers (e.g., interdisciplinary research, and use of information, technology, and communication skills).

## Centers of Research Excellence for Science and Technology

The National Science Foundation (NSF) Centers of Research Excellence for Science and Technology (CREST) program was established eleven years ago to strengthen the competitive research capability of participating minority institutions as well as increasing the number of underrepresented minorities qualified at the Master's and Ph.D. levels in SMET fields. Four new awards were made in for FY 98.

### **The CREST program has three broad goals:**

- to address challenging interdisciplinary research problems that require greater resources and long-term support of a Center;
- to create new knowledge and transfer knowledge and technology to industry, government agencies, laboratories, and academic institutions through partnerships and collaborative activities; and,
- to produce minority graduates at all levels, with special emphasis on Ph.D. degrees who have multi-disciplinary capabilities in science and engineering.

Nearly all of the existing centers have been successful in leveraging additional funds from the National Aeronautics and Space Administration (NASA), the Department of Energy, the Department of Defense, and the National Institutes of Health (NIH).



## **Louis Stokes Alliances for Minority Participation Program**

The Louis Stokes Alliances for Minority Participation (LSAMP) program is a multi-disciplinary, comprehensive, undergraduate program designed to increase substantially the quantity and quality of participating students receiving baccalaureate degrees in mathematics, engineering, and technology (SMET). LSAMP facilitates achievement of the long-term goal of increasing the number of students who earn doctorates in SMET fields, especially those who choose to take faculty positions on college and university campuses.

The LSAMP program encourages the formation of coalitions among leaders throughout academia, government, industry, and other organizations. The program will make a significant positive impact on student participation in SMET fields over the next decade. The LSAMP program supports undergraduate systemic reform in alliances that include partners from both two- and four-year higher education institutions, businesses and industries, national research laboratories, local, state, and Federal agencies. In addition to this principal focus, LSAMP projects also give consideration to the critical transition points in SMET education (i.e., high school-to-college; 2-year-successfully complete their undergraduate degree and pursue graduate studies; and,

## **Historically Black Colleges and Universities Undergraduate Program**

Announced and implemented in FY 1998, the goal of the HBCU Undergraduate program is to strengthen the Nation's workforce by increasing the numbers of all students enrolling in, and successfully completing, quality SMET baccalaureate programs which will prepare them to pursue doctoral degrees in the SMET disciplines. Support is provided to HBCUs with the expressed purpose of strengthening their SMET education and research infrastructure, including support for faculty, research experiences for undergraduates,

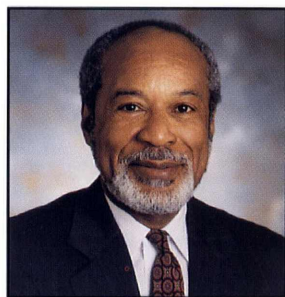
and scientific instrumentation. In order to achieve program goals, the current number and graduation rate of well-prepared underrepresented minority SMET baccalaureate degree graduates must be substantially increased at the grantee institutions.

The objectives of the HBCU Undergraduate program are:

- to develop and maintain a diverse and intellectually vigorous faculty committed to the improvement of undergraduate education;
- to strengthen SMET curricula, courses, and laboratories through the incorporation of advances in research-based teaching and learning in SMET disciplines;
- to develop appropriate partnerships with other academic institutions and industrial laboratories, as well as NSF-supported research centers, to ensure quality research experiences that complement student academic programs;
- to ensure that students are aware of, and well prepared for, graduate school matriculation, including an understanding of non-academic factors that are critical to success in graduate school;
- to stimulate faculty, professional organizations, and business and industry involvement in mentoring undergraduate SMET students, motivating them to successfully complete their undergraduate degree and pursue graduate studies; and,
- to function in a complementary and collaborative way with other related NSF-funded educational initiatives within the grantee institution and the region such as the Louis Stokes Alliances for Minority Participation (LSAMP), Centers of Research Excellence in Science and Technology (CREST), Minority Graduate Education (MGE), and Integrative Graduate Education and Research Training (IGERT) programs.



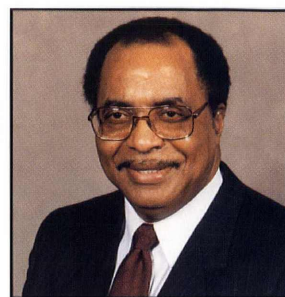
# The Diversity Programming Managers



Dr. Luther Williams  
Assistant Director

Directorate for Education and Human Resources  
The National Science Foundation  
Ph.D (Purdue) Biology.

Former Professor of Biology, Assistant Provost, Dean of the Graduate School, Vice President for Academic Affairs, and University President.



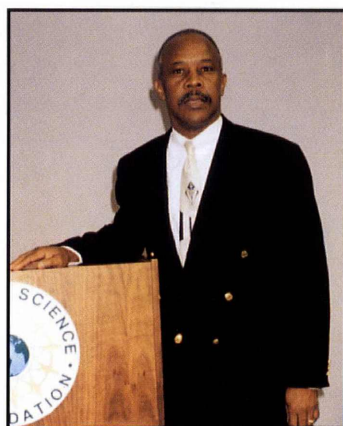
Dr. Roosevelt Calbert  
Division Director

Human Resource Development  
Directorate for Education and Human Resources  
The National Science Foundation  
Ph.D (Kansas) Physics.

## Program Assignments

Director	LSAMP	MGE	HBCU	CREST
Dr. A. James Hicks	X		X	
Dr. Costello Brown		X		X
Dr. Victor Santiago	X		X	
Dr. Jesse Lewis		X		X

Dr. A. James Hicks  
Program Director  
Ph.D. (Botany)  
University of Illinois, Urbana

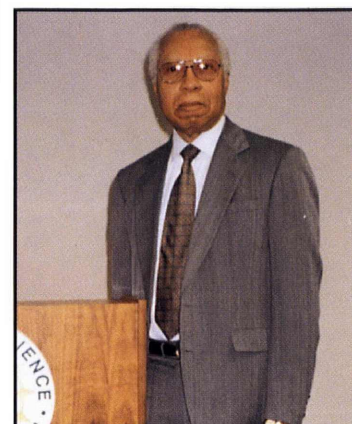
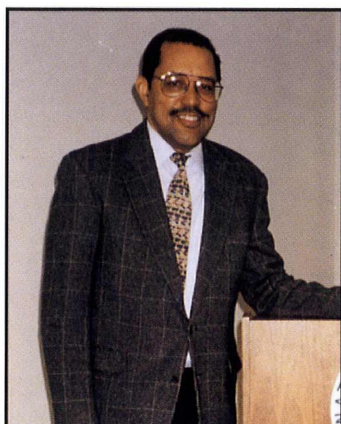


Dr. Costello Brown  
Program Director  
Ph.D. (Organic Chemistry)  
Iowa State University



Dr. Jesse Lewis  
Program Director  
Ph.D. (Numerical  
Analysis/Computer Science)  
Syracuse University

Dr. Victor Santiago  
Program Director  
Ph.D. (Geography)  
The University of Michigan

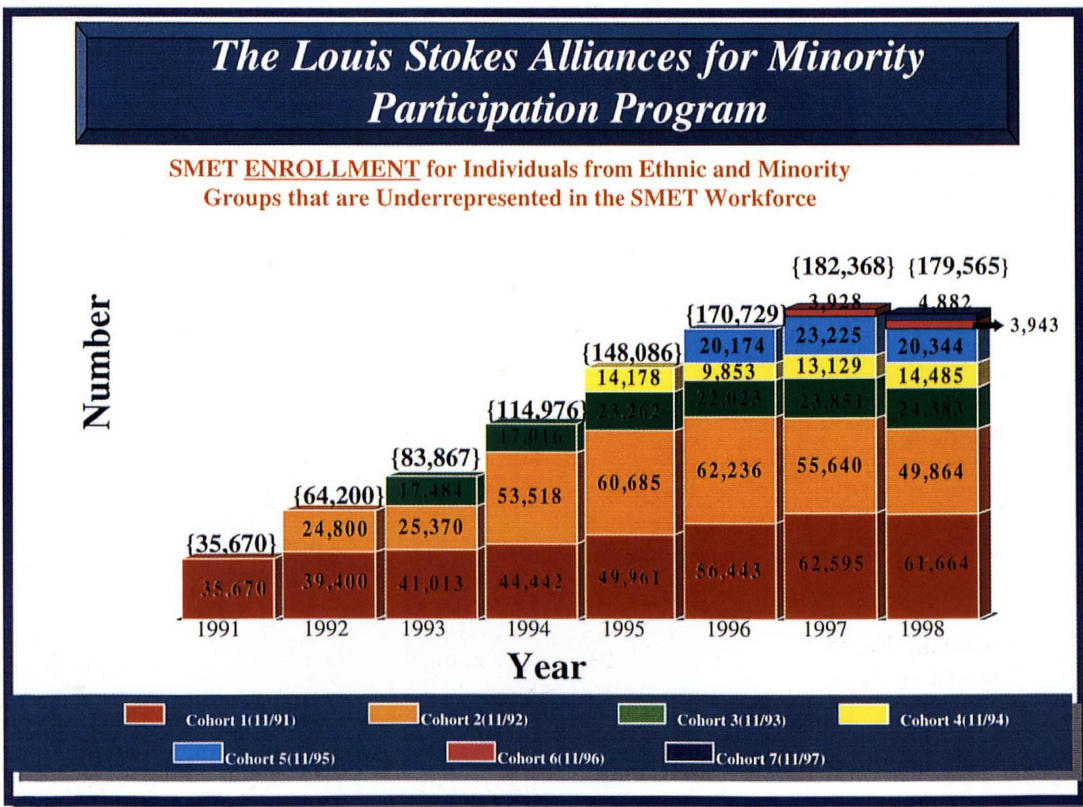
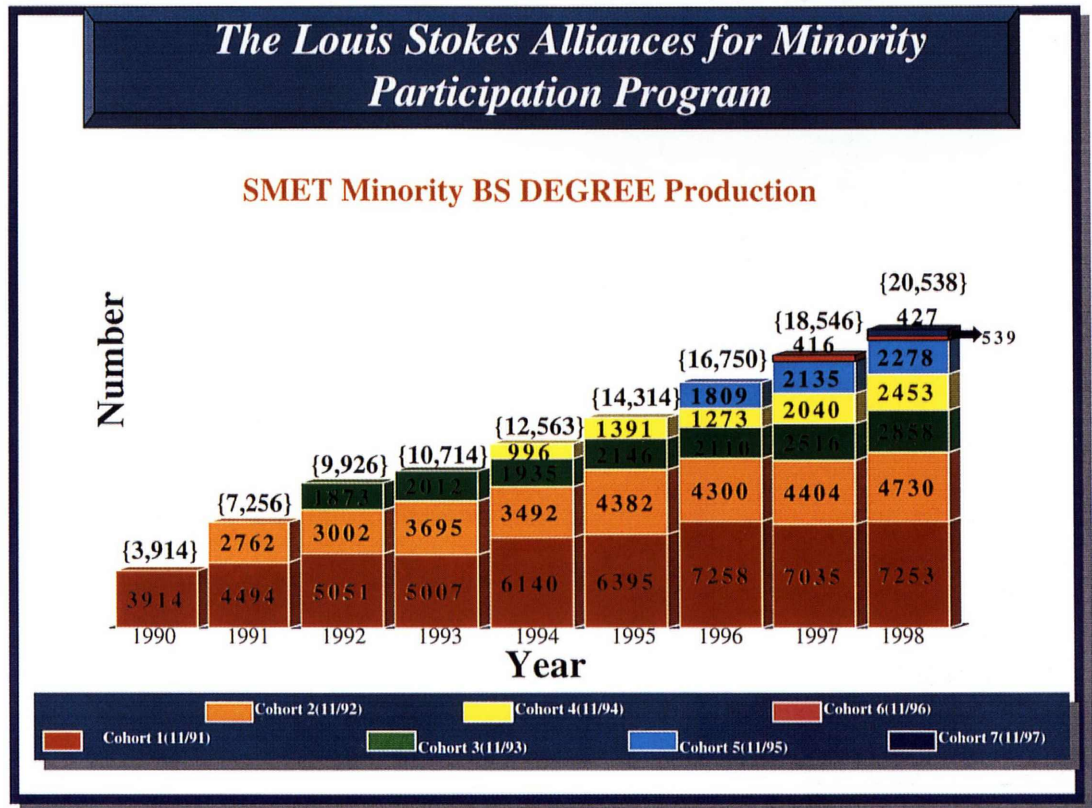




# LSAMP SMET Minority BS Degree Production

## Reaches 20,538

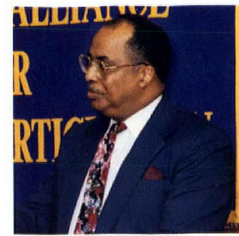
The Louis Stokes Alliances for Minority Participation Program began in 1990 with a SMET minority BS degree production of 3,914. Eight years later the BS degree production crossed the twenty thousand mark to reach 20,538. An increase of 425%.



During the same period, underrepresented minority SMET enrollment increased from 35,670 to 179,565, and increase of 403%.



# The Quiet Warrior at NSF



**H**e was born in a small town, called Canton, in rural Mississippi. His role model was an English teacher named Mrs. Ethel Lucile Nichols, who encouraged students to read and made a college degree seem real and obtainable. Motivated to continue his education after graduation from high school, he took a state test and received a \$50.00 college scholarship which carried him to Jackson State University, where he earned an undergraduate degree. After graduation, he taught high school science. As a young and promising educator, his career path did not stop there, but led him to The University of Kansas, where he earned a Ph.D. degree in physics in only three years, rather than the usual five.

his office that they are in the presence of a confident, organized administrator ready to conduct business.

Dr. Roosevelt Calbert began his career at the National Science Foundation in 1975, one year after Gerald Ford became President of the United States. His goal was then, and continues to be, the inclusion of more minorities in the scientific enterprise. Today he states readily, "I have seen the Promised Land." But he will add that the journey across the Red Sea has been a long one. Reflecting on his days as a high school science teacher, Dr. Calbert smiles and confides that his students had a special name for him- "Taskmaster." He attributes that to his philosophy about work which he continues to hold until this day. He would tell his students,

*"you must work hard to learn because  
I must work to earn my pay."*

Dr. Calbert experienced early how important it was to focus on the task at hand and carry it to completion. After participating in the National Science Foundation Summer Institute for teachers at The University of Kansas, he was invited to remain and attend graduate school because of his impressive performance at the institute. Nevertheless, he had to work Saturdays and Sundays to finish his doctoral study early.



*Dr. Roosevelt Calbert beginning a typical workday at his office at the National Science Foundation*

Today he is the Director of the Division of Human Resource Development at the National Science Foundation (NSF), where he is known as the "quiet warrior" in some circles and a "fighter for the cause" in others. Respected and addressed as Dr. Calbert by subordinates, he is affectionately called "Cal" by his friends, and close associates.

Dr. Roosevelt Calbert's office is located on the eighth floor of the National Science Foundation Headquarters in Arlington, Virginia. As you enter his office, the unique arrangement of furniture and wall decor immediately catch your eye. His large executive desk and round conference table are laden with stacks of the day's paperwork which will be dealt with before he leaves that day. Always the picture of serenity and control, he bids you, "Good morning, please have a seat," in a low voice. His manner relays to visitors to



*Dr. Calbert receives The Director's Award from Erich Bloch, former NSF Director*



*“Dr. Calbert has given sustained attention to programs for minorities at NSF. He is the guiding force behind the day to day activities in the Division”* Dr. Luther S. Williams, Assistant Director, NSF

Dr. Calbert began working with minority programs in 1979 as Program Coordinator for the Minority Research Initiation (MRI) program. This program provided initial research grants to the most talented minority researchers, who would take leadership roles in the science and engineering enterprise. Since that



*Dr. Calbert sworn into Senior Executive Service by Supreme Court Justice Clarence Thomas, and Constance Newman*

time, he served as Program Director for Research Improvement in Minority Institutions (RIMI), and Minority Research Centers of Excellence (MRCE). He served as Acting Program Director of Research Careers for Minority Scholars (RCMS) and Alliances for Minority Participation (AMP). He served as Deputy Division Director of The Division of Human Resource Development before his promotion to Division Director in 1993.

Dr. Luther S. Williams, Assistant Director for Education and Human Resources at the National Science Foundation, when asked about the role Dr. Calbert plays at NSF, stated, “Dr. Calbert has given sustained attention to programs for minorities at NSF. He is the guiding force behind the day to day activities in the division.” When asked about his greatest challenge at NSF, thus far, Dr. Calbert’s response is, “the greatest challenge has been to establish a program that focuses on HBCUs.” In a stern voice he states,

*“During my career at NSF, I have spent an inordinate amount of time overcoming barriers to implement programs for diversity”*

The National Science Board agrees, according to Dr. Calbert, that minority-serving institutions must be involved in increasing the number of minority Ph.D.’s in science, engineering, and mathematics and that the nation needs their capabilities to correct the problem.

Dr. Calbert gives a qualified, “yes” when asked if he is satisfied with NSF’s progress in implementing programs for minorities. “The Agency has a basic commitment, but implementation depends on managerial leadership.” He feels that more could have been done sooner.

*“Dr. Roosevelt Calbert is considered by many to be the father of Historically Black Colleges and Universities (HBCUs) involvement with the National Science Foundation”*

*William McHenry, Assistant Commissioner  
Mississippi Institutions of Higher Learning*



*Dr. Calbert making a presentation to Dr. William McHenry*

*“...he has initiated and supervised a number of programs designed to keep the U.S. in the forefront of technology through the graduation of BS, MS, and Ph.D. scientists and engineers”*

*William Sibley, Program Officer and former Vice President at  
The University of Alabama at Birmingham*



*On April 1, 1999, The Mississippi Legislature issued a Concurrent Resolution commending Dr. Roosevelt Calbert for his many contributions to the National Science Foundation and the education of minority students.*

Dr. William McHenry, former AMP program Officer and current Assistant Commissioner of Education for Mississippi State Institutions of Higher Learning, is enthusiastic in his praise for his friend and former supervisor. "Dr. Roosevelt Calbert is considered by many to be the father of Historically Black Colleges and Universities (HBCU) involvement with The National Science Foundation. There are few HBCU college presidents that visit NSF and fail to drop-in on Dr. Calbert. Dr. Calbert has worked diligently to ensure that students who attend minority-serving institutions have access to both quality teachers/mentors and cutting edge technology. He has earned the reputation of being one of the hardest workers in the federal government. Many minority scientists, mathematicians, and engineers have been supported by awards made possible by his innovative



*Dr. Calbert and his wife, Thelma, at a meeting at the State Department*

spirit. While being a devoted father and husband, a committed Christian, and a zealous community worker, Dr. Calbert demonstrates that to give much is to receive much in return."

Dr. William Sibley, long time friend and associate, says "Dr. Roosevelt Calbert has dedicated most of his career to helping others through NSF programs. As Division Director of Human Resource Development, he has initiated and supervised a number of programs designed to keep the U.S. in the forefront of technology through the graduation of BS, MS, and Ph.D. scientists and engineers. The Louis Stokes Alliances for Minority Participation (LSAMP) is only one example

of the successful programs for which he has had major involvement. The universities represented in this initiative now graduate over 20,000 underrepresented minorities each year with baccalaureate degrees in science, engineering, and mathematics."

*"Working with Dr. Calbert is a great pleasure. He is hard working, focused, soft spoken, and patient."*

*Ms. Annette Dreher, Division Secretary*



*Dr. Calbert reviewing assignments with Dr. A. James Hicks, AMP Program Director*

"I have known Dr. Calbert for about ten years. He is a knowledgeable, dedicated, and hard working Division Director," states Ms. Annette Dreher, his secretary.

One of his co-workers describes him as a man who "hangs in there and gets things done."

With a vast amount of educational experiences, successful program administration, a history of diverse employment settings, and a gift for positive interaction, Dr. Calbert is well equipped to advise young aspiring minority students as they embark into higher education and subsequent careers. His words are short and succinct:

- **Look for a role model**
- **Be aware of your environment and become a contributing member**
- **Be persistent with study habits**
- **Look at the process for solving problems**
- **Become a mentor for others**

This advice has served Dr. Calbert well throughout his career from Canton, MS to Arlington, VA.

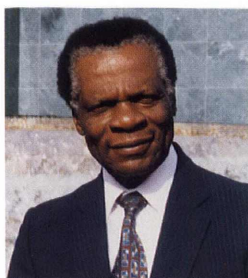
A warrior? Yes, in every sense of the word!

*He is truly The Quiet Warrior at NSF. His weapons are patience, perseverance, preparation, and a smile.*



# Highlights and Accomplishments

## Alabama LSAMP



*Dr. Louis Dale  
Project Director*



- Alabama LSAMP SEM degree production increased to 102% of its baseline data.
- The total number of Alabama LSAMP SEM graduates reached 953.
- The Alliance sponsored three summer programs for underrepresented minorities.
  1. A Summer Bridge Program for qualified graduating high school students interested in SEM careers.
  2. A Summer Research Internship Program for undergraduates interested in attending graduate school.
  3. A Graduate Bridge Program for Alabama LSAMP students preparing for graduate school.
- The Alliance began collaboration with the newly established Alabama Minority Graduate Education program. Alabama LSAMP undergraduate institutions will serve as feeder schools for AMGE graduate schools.

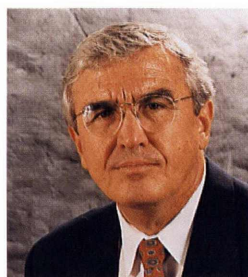


across the country. Recently the Statewide Office hosted a representative of the Louisiana Alliance for discussions on approaches to data collection. CAMP also shared strategies for tracking students beyond the baccalaureate with the University of Texas LSAMP at their systemwide meeting. And through the CAMP Quarterly, we featured the LSAMP undergraduate conferences held at New Mexico and Montana. On the postbaccalaureate front, the graduate preparation arm of CAMP received supplemental funding from NSF and efforts at two UC campuses will be strengthened by new collaboration with the California State University, Los Angeles CEA-CREST program. Through the Center for Environmental Analysis, integrated research teams tackle key environmental research questions. The program offers a pathway to careers in the environmental sciences that are intellectually stimulating and socially constructive. The major goal of CREST is to develop outstanding research centers that will produce new knowledge and increase the number of underrepresented minorities with Ph.D.s in science, mathematics, engineering and technology. Participants are groomed for admission to doctoral programs, which special focus on preparing the future professoriate. This new link will optimize cost-sharing, institutional commitment and leadership as well as the impact on higher education systems.



---

## California LSAMP



*Dr. Nicolaos Alexopoulos  
Project Director*



University of California/CAMP linkages with the national alliances occurred in several ways, including curriculum reform, evaluation, and dissemination. For example, during 1997-98, the student technical writing book, *Writing Science Through Critical Thinking*, developed through UC Irvine's Summer Science Academy, was provided to each LSAMP project director. CAMP continues to provide assistance with assessment and evaluation design to LSAMP programs

---

## California State LSAMP



*Dr. Alfonso Ratcliffe  
Project Director*



For the first time in the five years that we have been part of the AMP program we used our full complement of four positions to send students to the Alliance for Minority Research Conference (ARC). Three students presented papers and a fourth submitted a poster. We were extremely proud that our three paper presenters all received awards. We sent notices immediately to all forty-three of our member institutions notifying them of this success and urging them to prepare students for future ARC's. All of our institutions were pleased by this demonstration of AMP's prowess and were poised to continue this activity up to the time that the

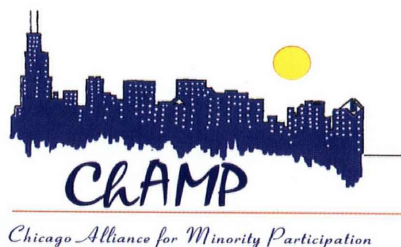




cancellation of the seventh ARC was announced. We achieved a level of 1379 minority graduates in the twelve months ending in June of 1998, 92% of our pledge of 1500 by the 1998/99 academic year.

We revised our Phase II proposal to enhance the program for community college students who form a significant fraction of our ultimate degree recipients.

## Chicago LSAMP



*Dr. Marian Wilson-Comer  
Project Director*

- At Chicago State University, AMP scholars continuously learn and develop their leadership potential and preparation for graduate studies by participating in bi-monthly Leadership Seminar Series which includes guest speakers from departments on campus, Notre Dame University, Xavier University and Miami University. The scholars conduct research projects such as debugging programs for internal corporate software, developing mini-database files, and researching Mayan Math and U.S. Multi-cultural Mathematics Education.
- Several AMP scholars from Governors State University are currently involved in proposed studies that will examine the relationship between Urban-Rural Gradients (URG) and mammalian diversity and creating a database/interface system to maintain computerized filing operation for an organization.
- South Suburban College hosted a Back-to-School fair on September 19, 1998 in Harvey, Illinois. Faculty, administrators and ChAMP students conducted hands-on science and math lessons with 3,000 kindergarten through eighth grade students at Brooks Junior High School. The hands-on activities included geometric volumes with bird seed; twirling rabbits (Physics in action), and Can You Math It? Conducting hands-on activities with so many children in a four hour span of time was exhilarating and very rewarding for South Suburban College ChAMP team.
- During 1997–1998 academic year there were 16 ChAMP

Scholars conducting undergraduate research at the University of Illinois at Chicago (UIC). Eleven of these students presented their research findings at the Third Annual ChAMP Undergraduate Research Conference held at UIC. Eleven ChAMP Scholars graduated from UIC in spring 1998.



- Nine ChAMP scholars from Harry S Truman College were enrolled in intermediate and college Algebra, and successfully completed an 8-week pilot math workshop. The students worked cooperatively and competitively on challenging math problems designed by one of the math instructors, while two calculus-level students facilitated the workshop. Students from Truman College also received a realistic view of the day-to-day operations and responsibilities of scientists and engineers when they toured Fermi and Argonne National Laboratories.
- Three new member institutions were added to the Alliance and they are: Illinois State University, Southern Illinois University-Carbondale, and Southern Illinois University-Edwardsville.
- Senator Emil Jones, Jr., Illinois Senate Democratic Leader, was instrumental in securing state funding from the Illinois Board of Higher Education to support ChAMP scholars.

## Colorado LSAMP



*Dr. Omnia El-Hakim  
Project Director*

- ❖ 30% increase of underrepresented minority student enrollment in SMET disciplines
- ❖ Co-Sponsor of the 6th Annual Alliance for Minority Research Conference "Completing the Circle through Education and Research," held at Salish Kootenai College in Pablo, Montana
- ❖ CO-AMP sponsored 4 students who presented research at the AMP Research Conference in Montana
- ❖ Expansion of tutoring, peer advising, and mentoring programs at CO-AMP participating institutions
- ❖ Summer Bridge Programs were conducted at 6 CO-AMP



institutions

- ❖ Academic Excellence Workshops/Seminars were conducted at 4 CO-AMP institutions
- ❖ Strong collaboration with the American Indian Science and Engineering Society's (AISES) professional student organizations at several CO-AMP institutions and in hosting AISES' 20th Annual National Conference in Denver
- ❖ Co-sponsoring of CO-AMP of the AISES Regional and Hispanic Student Conferences at Fort Lewis College
- ❖ Co-sponsoring and hosting the National American Indian Science Bowl at Fort Lewis College
- ❖ Recipient of Colorado State University's Annual Diversity Award, honoring a program that exemplifies initiative and action in diversifying the campus community

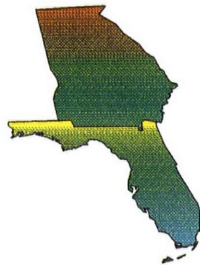


---

## Florida-Georgia LSAMP



*Dr. Lynette Padmore  
Project Director*



- ❖ The Florida-Georgia Louis Stokes Alliance for Minority Participation (FG-LSAMP) has added two new partner institutions to its Phase II component (Florida Memorial College and the University of Miami) which increases our number from twelve to thirteen participating institutions.
- ❖ The FG-LSAMP at Florida A&M University has added a guest book to its website (<http://www.famu.edu/fgamp/summer.html>) where visitors can sign in and leave comments and/or suggestions concerning the project. FG-LSAMP Alumni have used this feature extensively.
- ❖ The FG-LSAMP consortium hosted its fifth annual career EXPO in January 1999. The event provided FG-LSAMP students with new internship sources, a broader networking pool between business, industry and FG-LSAMP graduate schools.
- ❖ The total number of B.S. graduates at participating institutions has more than tripled since 1991 (416 in 1991, to

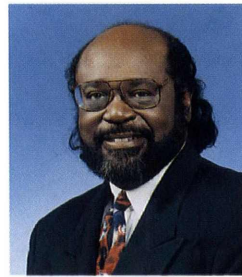


1380 in 1998).

- ❖ Participation of undergraduate students as FG-LSAMP scholars has increased from 454 in 1993 to more than 800 in 1998.
- ❖ Over the past five years, the Alliance graduated a total of 495 supported scholars from four (4) of the major institutions supporting undergraduates. At least one hundred and ninety-nine (199) of these students are enrolled in graduate programs.
- ❖ Since 1994 the Alliance has secured more than 601 summer internships for eligible FG-LSAMP scholars.

---

## Heartland's LSAMP



*Dr. Charles Sampson  
Project Director*

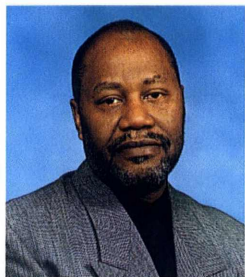


- Increased undergraduate degree production among underrepresented groups in SEM disciplines (from 137 to 567 between 1995-1998);
- Increased graduate degree production among underrepresented groups by 72% since 1995;
- Facilitated increased statewide awareness of the low numbers of underrepresented students pursuing and completing degrees in SEM disciplines;
- Developed successful bridge programs to reach pre-college students from underrepresented groups while they are still exploring career options;
- Developed activities to enhance student retention: early warning initiatives, tutorial services, support groups, mentorships and co-curricular activities;
- Increased awareness on campuses of, and sensitivity to, the particular problems faced by underrepresented students;
- Implemented "NEWS from the Heartland's Alliance," the official newsletter of HAMP;
- Took an active role in building support for passage of Senate Bill 805, which established a Minority and Underrepresented Environmental Literacy Program (MUELPE) scholarship fund;
- Facilitated development of articulation agreements for students moving from two- to four-year institutions; and
- Implemented a "Student Research Symposium" which allows students to experience professional exchanges with peers and faculty, introduces students to the process of judged performances and awards and increases the visibility of HAMP activities and goals.

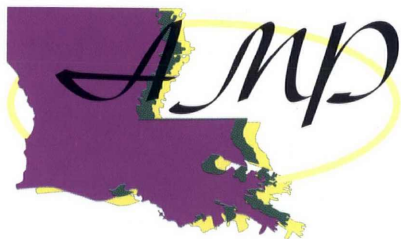


---

## Louisiana LSAMP



*Dr. Robert Ford  
Project Director*



**DEGREE ATTAINMENT.** The increase in minority SMET degrees between Year 1—95/96 and Year 2--96/97 (34) doubled between Year 2--96/97 and Year 3--98/99 (72). The degree attainment of the Louisiana Alliance has shown an overall increase over the baseline year of 30% (500/690). Since the baseline year the following disciplines have seen large increases in the number of graduates: Chemistry (>19%), Physics (>52%), Mathematics (>24%), Computer Science (>41%), Engineering (>39%), Life Sciences (>32%), and Agricultural Sciences (>73%).

**SMET ENROLLMENT.** Recruitment, retention, and curricular efforts have helped to increase the minority SMET enrollment numbers from 4,926

*in 1995-96 to 6,168 in 1997-98, this is approximately 20% increase.*

**RESEARCH ACTIVITIES.** Research experiences were offered for both faculty (4) and students (40) at Tulane University,



Louisiana State University, and LUMCON. Approximately 75% of LAMP's level one students participated in a research activity either during the academic year or during the summer.

**CONFERENCES.** The Louisiana Alliance for Minority Participation and Louisiana's Department of Energy's EPSCoR program jointly sponsored a student research and faculty conference on March 19 and 20, 1998. The conference Strengthening the SMET Pipeline Through Partnerships attracted 200 faculty and students from around the State.

**PUBLICATIONS.** The first issue of the LAMP JOURNAL, a newsletter of the Louisiana Alliance, was published in Fall 1997.

**AWARDS.** Tulane University, a LAMP partner, was recognized by the Quality Education for Minorities (QEM) Network as one of the top ten universities in Louisiana, awarding SMET bachelors degrees to minorities. Dr. Isiah Warner, Chemistry, and Dr. Su-Seng Pang, Engineering, both of Louisiana State University, were recipients of the US Presidential Award for Mentoring in 1997 and 1998, respectively. Dr. Diola Bagayoko, Southern University, Physics, was among the first winners of this prestigious award. All are affiliated with the LAMP program.

---

## Maryland LSAMP



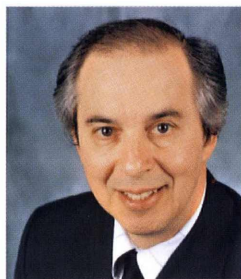
*Dr. Freeman A. Hrabowski, III  
Project Director*



- Several USM LSAMP scholars published articles in refereed journals.
- USM LSAMP scholars were awarded Fogarty Minority International Research Training (MIRT) internships to conduct research abroad.
- USM LSAMP scholars received the Barry M. Goldwater Scholarship for Excellence in Mathematics and Science.
- USM LSAMP scholars were awarded Pfizer Internships.
- USM LSAMP scholars received Merck Fellowships.
- USM LSAMP scholars were Howard Hughes Academic Semester Fellows at Brandis University.
- An USM LSAMP scholar made the National Dean List, an honor only 5% of all students attending Universities receive.
- USM LSAMP scholars were inducted into a number of National Honor Societies, including Phi Beta Kappa.
- USM LSAMP scholars were awarded GEM Fellowships.
- An USM LSAMP scholar received the National Collegiate Minority Scholarship Award.
- The USM LSAMP implemented the social and behavioral sciences component of the program.
- USM LSAMP scholars received Lucent Technologies Fellowships.
- USM LSAMP scholars won first place in both Life Sciences and Physical Sciences at 6th Annual NSF/AMP Student Research Conference in Montana.

---

## Metropolitan Detroit LSAMP



*Dr. Hanley Abramson  
Project Director*



MDAMP continued to grow both organizationally and



programmatically during 1998. The addition of a seventh partner, Michigan State University, increased the alliance's geographic coverage. There was an increase in the number of underrepresented minority SEM graduates and students enrolled in SEM disciplines. MDAMP students continued to participation in faculty-led research projects and presented at several professional conferences. Two new summer bridge programs were implemented in summer 1998. Programmatic and pedagogical advances continued to be made. Finally, financial contributions were received from corporate sources to support the MDAMP program. It was a productive fourth year for the MDAMP alliance.

---

## Mississippi LSAMP



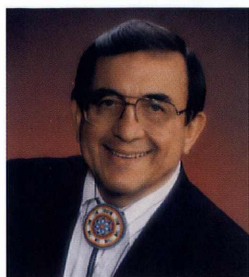
*Dr. Richard Sullivan  
Project Director*



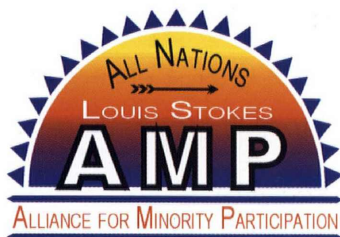
The Mississippi Alliance for Minority Participation reported 572 SMET B.S. Degrees for 1998. As a result, MAMP was a recipient of a Quality Education for Minorities (QEM) Exemplary Program Award for Mathematics, Science and Engineering Education. Dr. Richard Sullivan, Project Director and Chairman, Department of Chemistry, Jackson State University, accepted the award on behalf of MAMP. The QEM Network is a coalition of minority and non-minority educational institutions, school districts, and mathematics, science, and education organizations. These organizations are collaborating to achieve the numerical mathematics, science and engineering goals for minorities outlined in the Network's April 1992 report *Together We Can Make It Work: A National Agenda to Provide Quality Education For Minorities In Mathematics, Science and Engineering*.

---

## All Nations LSAMP



*Dr. Joseph McDonald  
Project Director*



- The Alliance for Learning & Vision for under represented

Americans (ALVA) Bridge Program grew to 102 Native American entering freshmen for the Fall of 1998. Participating institutions where; U. of Washington, U. of New Mexico, U. of Minnesota, U. of Michigan, U. of Alaska-Anchorage, U. of Wisconsin-Madison, New Mexico State U., Cornell U. of Texas-Austin, and North Carolina A&T State U. The participating sponsors included; the Jet Propulsion Laboratory, Ford Motor Company, British Petroleum Exploration, International Business Machines, Environmental Protection Agency-University Agency, and the University of Washington-Research Labs. The engineering students received work experience, stipends and assistance with calculus. The first year retention rate was 93% and their overall GPA average was 3.20.

- "Touch the Sky – a guide for Tribal and Community College Transfer Students," is a book written to assist Tribal College students transferring to 4-year university programs as well as high school students entering a Tribal College or university. This book is a valuable resource and is being used in many partner institution libraries.
- The All Nations LSAMP provided various levels of assistance with Internet connections at three Tribal Colleges. The three schools were Nebraska Indian Community College, Bay Mills Community College and Blackfeet Community College.
- Distance Education is a high priority for many Tribal Colleges and the All Nations LSAMP is proud to support numerous activities to assist with the ongoing development of the AIHEC Distance Education Project.
- The All Nations LSAMP collaborated with the Northwest & North Central Partnership for Environment Technology Education (NWPETE & NCPETE) on a pre-PETE Conference Workshops for Tribal College environmental science faculty. One area of focus was to work together on development, implementation and expansion of environmental science programs at Tribal Colleges.

---

## New Mexico LSAMP



*Dr. Ricardo Jacquez  
Project Director*



- In 1997/98, 421 degrees were granted to underrepresented minorities in SMET fields, up 66% over the baseline of 253 degrees in 1992/93. The percent of SMET B.S. degrees earned by minority students increased from 23.7% in 1992 (baseline) to 33.9% in the 1997/98 aca-

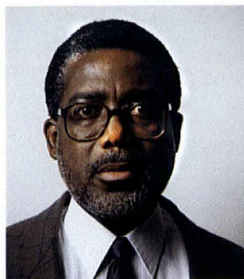


demographic year. This compares to 16% of all U.S. SMET B.S. degrees being earned by minorities (based on 1995 data in publication NSF 97-334).

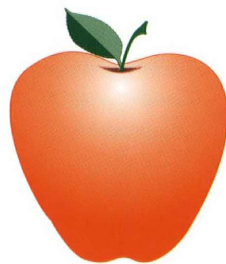
- Twenty students from New Mexico AMP attended the 1998 NSF/AMP Student Research Conference. Wanda Lewis (NMSU) placed 2nd in oral presentation, and Stephen Black (NMHU) placed 1st in poster presentation competition. New Mexico AMP also distributed a highlights video of the 1997 national conference, and disseminated information on the SMET 101 course model.
- Over thirty AMP students were placed in summer internships, co-ops or jobs with industry, national laboratories, state and county offices, and federal agencies including Sumitomo Sitix Silicon, Inc., the State Human Resources Department, State Engineer Office, the Smithsonian Institution, and the Department of the Interior.
- New Mexico AMP and the Waste-management Education & Research Consortium co-sponsored the annual state student research conference held in September, 1998. Keynote speaker was Sandra Begay-Campbell, Executive Director, American Indian Science and Engineering Society (AISES).
- New Mexico AMP and the Las Cruces Court Youth Center received a U S WEST Foundation grant to provide computer-based workshops and lab access to local area mid- and high school youth. Dr. Rudi Schoenmackers, New Mexico AMP Co-Director, leads the team of AMP students and Youth Center professional staff.
- New Mexico State University received \$300,000 from NASA under their PACE Program. The NMSU PACE program design is based on successful components of New Mexico AMP and will provide additional opportunities for AMP students.

---

## New York City LSAMP



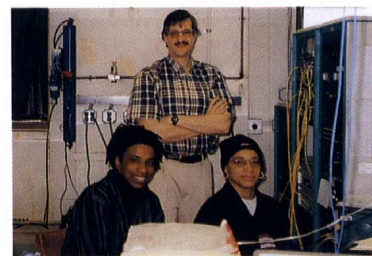
*Dr. Neville Parker  
Project Director*



- Completion of the NYC AMP SMET Pipeline: The addition of the CUNY Graduate School and University Center extends AMP support for CUNY's talented SMET students through their quest for the doctorate. AMP is engaging New York City's students in research as early as middle school. College and graduate stipends are significant and will soon be enhanced by AMP-generated private sector grants.

- An Expanding Undergraduate Research Program and Increases in Institutionalization: 128 CUNY undergraduates conducted research in faculty laboratories under NYC AMP auspices (up from 88 in 1996-1997), bringing the 1992-1998 cumulative total to 424 AMP research scholars. All 128 research scholar positions have been institutionalized, as have 44 restructured courses (up from 37 in 1996-1997), 150 peer tutoring positions throughout CUNY, NYC AMP activity coordinator positions on all 16 undergraduate campuses, and the NYC AMP central office.

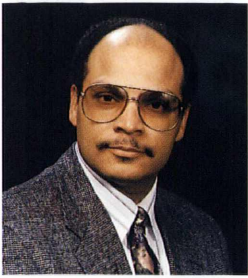
- A Growing Cadre of Mentors: 82 CUNY faculty members served as NYC AMP mentors during the 1997-1998 academic year, rising to 104 by the fall of 1998. NYC AMP recognizes that



- learning partnerships with faculty are crucial to keeping students in SMET studies to the baccalaureate level and beyond. It continues to seek strategies and incentives for involving instructors in this essential aspect of teaching.
- Enriching SMET Education Through Partnerships with Government Agencies and Other Funded Programs: The NASA GISS Institute on Climate and Planets, of which NYC AMP is a founding collaborator, has been refunded for 1997-2000. This model pipeline program engages CUNY faculty and students in cutting edge research with NASA scientists; a collaborative enrichment partnership with Brookhaven National Laboratory offers CUNY students summer and academic year opportunities to work alongside Brookhaven's scientific, technical, and professional staff; the Urban Systemic Initiative, dedicated to reforming SMET education in the New York City school system, is an increasingly important partner as NYC AMP works to increase the preparedness in SMET disciplines of students entering CUNY and to train CUNY students to be precollege SMET teachers.
- A Key Role in Important Conferences: NYC AMP took top honors at the 1998 NSF/AMP Summer Research Conference, with first and second prizes in the poster presentation category and first prize in the oral presentation category going to CUNY students; NYC AMP co-sponsored CUNY Faculty Research, Mentoring of Undergraduate Research Scholars, and SMET Course Restructuring; it provided organizational support for the NSF-sponsored Shaping the Future: Transforming Undergraduate Education in Science, Mathematics, Engineering, and Technology and The Urban University: Pathway to Careers in Science for Minority Scientists and Engineers.



## North Carolina LSAMP



*Dr. Harold Martin  
Project Director*



- Increased SMET enrollment by 11% and baccalaureate degree productivity by 18%
- Enhanced overall application of technology to facilitate instruction in SMET courses
- Sponsored Annual Alliance-wide Research Conference hosted by the University of North Carolina-Charlotte
- Implemented Summer Research Program at North Carolina State University
- Expanded participation of Native American students in Summer Bridge Program at the University of North Carolina-Pembroke
- Established Alliances of Learning and Vision for Underrepresented Americans (ALVA) Bridge Program
- Maintained supplemental instruction and tutorial services for all "gatekeeper" courses
- Increased student participation in local, state, and national research conferences (NSF/AMP Student Research Conference, Pablo, Montana - First Place Winner in Oral Competition for Mathematics; National Conference of Undergraduate Research, Salisbury State University; North Carolina State University Undergraduate Research Symposium; Conference of North Carolina Computing at Minority Universities; SOARS Conference, and the Life and Physical Sciences Symposium at North Carolina A&T State University
- Facilitated CCRCA Phase IV curriculum development (calculus reform workshops using TI-92 graphing calculators) for 17 teachers at Minority Serving Institutions increasing CCRCA's total impact to 3,008 students each semester and 6,018 students per year
- Implemented staff development for instructional application of graphing calculators in NCAMP-Teacher Preparation Initiative
- Provided faculty development activities to enhance student performance on the PRAXIS Series: Professional Assessments for Beginning Teachers (Educational Testing Service, 1996)
- Continued enhancement of articulation agreements with local community colleges

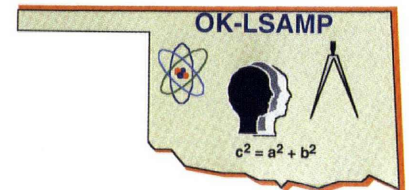


- Boosted cooperative education/internship placements for SMET students (1133 - co op experiences) and (690 internships)
- Included Winston-Salem State University in the Alliance membership replacing the University of North Carolina at Greensboro
- Annual \$1.5M state-appropriated funds requested by NC-LSAMP Advisory Board to support institutionalization of Alliance programs

## Oklahoma LSAMP



*Dr. Earl Mitchell  
Project Director*



- OK-LSAMP exceeded projected graduation goals for 1998 by 8.8%. **410** underrepresented minorities were awarded degrees in science, mathematics, engineering and technology fields this year. The baseline in 1994 was 214.
- Second year retention rates for underrepresented minorities in SMET are up from 76.5% in 1994 to 83.4% in 1996.
- 229 undergraduates participated in scholars, research and bridge programs.
- 65% of participants were concentrated in the fields of life sciences, computer sciences and engineering. Other well-represented fields were chemistry, mathematics.
- Spring 1998 average GPA was 3.02.
- Nikita Watts, Lisa Fields and Acacia Bender represented OK-LSAMP at the AMP Research Conference held at Salish-Kootnei College, Pablo, Montana, July 17-20, 1998.
- This past summer, Dr. Carol Rutledge, East Central University (ECU), met with Seminole State College (SSC) Science Head, Dr. Gerhard Laule, to develop a cooperative plan to prepare SSC students for transfer to OK-LSAMP research and mentoring programs at ECU.
- Research interns who participated in Research Day at the Capitol in May 1998 can tell you that Oklahoma legislators are very interested in the progress of their college-going constituents. OK-LSAMP scholars Joanne Stevenson, Langston University and Jodi Jones, Oklahoma State University were selected to present posters for





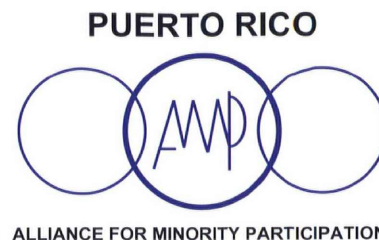
---

---

## Puerto Rico LSAMP



*Dr. Manuel Gomez  
Project Director*



- their institutions at a poster session in the Capitol rotunda. This was the first research day devoted to undergraduate students. The Experimental Program to Stimulate Competitive Research (EPSCoR) and the Oklahoma State Regents for Higher Education sponsored the event.
- At the annual OK-LSAMP Research Conference four seniors gave oral presentations on their summer projects: Brett Cowan, Civil/Environmental Engineering; Thomas Jones, II, Biotechnology/Food Science; Joseph Jones, Civil/Environmental Engineering; Joseph Hall, Geology.
  - OK-LSAMP joined EPSCoR in recruiting high school sophomores and juniors for a multistate "Workshop in Science and Mathematics." The program, was held on March, 25-27, 1999 was a combined effort of several EPSCoR programs in this region. It's designed to provide Native American and other underrepresented minority students with information about developing their science-related interests, learning more about science fields, and preparing for college.
  - Program Manager, Judy Batson and Valerie Shangreaux, OSU Campus, Coordinator, presented a workshop session on the "Consortium Approach to Recruitment and Retention" at a Conference on Recruitment and Retention of Students of Color. The University of Kansas hosted the conference, held in May 1998.

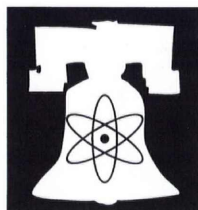
---

---

## Greater Philadelphia Region LSAMP



*Dr. Corrinne Caldwell  
Project Director*



*PhiladelphiaAMP*

- **Cheyney University**, in an effort to improve student retention and graduation, has initiated the process of adding student advising as a component of faculty performance evaluation. This is being negotiated through the Commonwealth of Pennsylvania's Faculty Union.
- **Temple University** has formed a new College of Science, Engineering and Technology that combines (1) the Science, Mathematics, and Computer Science departments from the College of Arts and Sciences, (2) the Statistics department from the Business School and (3) the College of Engineering. The intent is to improve SEM education, particularly at the undergraduate level, and to integrate undergraduate education with graduate education and research.
- At **University of Delaware**, as a result of the RAIRE grant, about 90% of all engineering, biological and physical science professors actively participate in providing research opportunities for undergraduate students.

In 1997-98, PR-AMP institutions awarded 2,726 BS degrees in SMET, an increase of 60% from 1991 baseline year. Eighteen percent of the Hispanics nationwide that obtained a doctorate degree from 1991 to 1995, received their BS degree from a PR-AMP institution. In the Fall of 1997, PR-AMP institutions had a SMET undergraduate enrollment of 22,214 students, a 76% increment from the 1991 baseline year. Graduation rates in science at UPR institutions has increased from 48% to 56%, while in engineering it has increased from 53% to 76%. Also, the Index of Course Efficiency (the average number of times a student must take a course to satisfactorily pass it) on the average was reduced from 2.43 to 1.79 for science courses, and from 2.0 to 1.35 for most difficult engineering courses. The total number of student interventions in 1997-98 was 12,000, with 364 students participating in undergraduate research experiences. Gatekeeper and bottleneck of SMET courses have been revised and strategies such as cooperative learning, institutional research, mentoring, and the use of technology in the classroom have been institutionalized at PR-AMP institutions.

---

---

## South Carolina LSAMP



*Dr. Craig Rogers  
Project Director*



- The total SMET enrollment in SCAMP institutions for Fall 1998 was 12,000, a 72% increase from SCAMP's inception in 1992.
- SCAMP continued initiatives to reform curriculum in "gatekeeper" courses.
- Successfully implemented a Supplemental Instruction Program at many of the partner institutions, targeting "gatekeeper" courses in chemistry, physics and calculus.



- Expanded and enhanced mentoring and tutorial services on all partner campuses. SCAMP has fostered the expansion of Clemson Universities renowned proactive PEER Mentoring Program.
- Increased the participation of summer internships in industrial settings. Approximately 30% of our students will conduct summer research in an industrial setting, while the remainder will be trained in an academic lab.
- Academic year research has increased drastically throughout the alliance. SC-EPSCoR provides SCAMP students research stipends during the year and during the summer.
- SCAMP is very proud of the outstanding research that is presented at the Annual Science & Engineering Fair.
- A joint agreement between the University of South Carolina and Midlands Technical College to provide an initial \$500.00 scholarship to all Midlands Technical College students who transfer to the University.
- The "Shadowing Assistantship" program at Midlands Technical College has attracted many university-bound students who desire to know more about "University Life."




---

## SUNY LSAMP



*Dr. David Ferguson  
Project Director*



- A substantial yearly increase of **31%** in degree production, with an overall increase of **47%** since 1997.
- A yearly increase in minority SMET enrollment of **6.5%**, with overall increases of up to **25%** in enrollment on campuses.
- Increased cost share which is now **353%** of funding amount.
- Development of the Career Choice Project and Grow Your Own Project to increase graduate study and the number of students entering the professoriate with AMP supplemental grant funding.
- Substantially higher retention rates for SUNY AMP students than for other students at their institutions or for national retention averages.
- A substantial increase in both volume and accuracy of relevant data collection for reporting and program analy-

sis.

- Increases in number of students receiving AMP stipends, academic support services, and research placements.
- Establishment of an Alliance-wide innovative summer program *Introduction to Calculus*.
- A strengthening of the SUNY AMP Alliance was evidenced by shared activities and resources, shared initiatives, shared events and workshops for students.
- A strengthening of the financial and programmatic ties with the New York State funded Collegiate Science and Technology Entry Program.
- Improvement in real-time tracking of students and in the development of a strategic plan to meet program goals.
- Development of new and increased partnerships with **BP Amoco, Computer Associates and Brookhaven National Laboratory**.
- Increased personnel for recruitment, retention, fund raising, and grant writing.
- Funding from BP Amoco to increase number of students from community colleges who receive bachelors degrees in engineering.
- Undertaking of a total SUNY AMP program evaluation by an outside contractor skilled in evaluating the effectiveness of NSF programs.

---

## Texas LSAMP



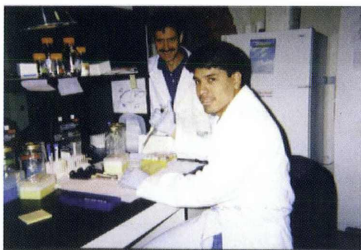
*Dr. Karan Watson  
Project Director*



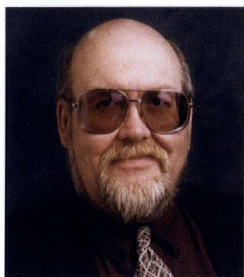
During the Alliance's 1997-98 academic year, we had the good fortune to have our new Program Officer, Dr. Hicks, attend our first coordinators' meeting in year 1. This prompted an enthusiastic response from our partners to not only maintain the excellent outcomes of Phase I, (an increase of 112% in minority SMET baccalaureate graduates), but to build upon and make Phase II equally successful, if not more so. As an alliance we have continued to nurture our three supplemental programs: (1) Teacher Preparation at TAMU-Corpus Christi has continued the retention of students majoring in SMET who wish to become teachers. Our lone teacher prep competitor, at the AMP Summer Research Conference (ARC), placed third, as did our engineering student from TAMU-College Station. (2) The Social/Behavioral Sciences Program Supplement had its first 10-week summer enrichment program for undergraduate students. The courses and extracurricular events have made this inaugural session a success. The students have increased their knowledge of



research methodologies, participated in a preparatory course for the GRE, and worked with faculty on current research projects. (3) The Virtual Institute Center for Transfer and Articulation-VITA has continued its development and collection of resource material and human resources relating to transfer and articulation.



## The University of Texas System LSAMP



*Dr. Pablo Arenaz  
Project Director*



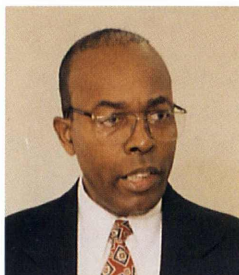
- Five UT System LSAMP students attended the 6th AMP Research Conference at Salish Kootenai College, and each student earned an award. Julia Rives, UT Arlington, Mauricio Camacho, UT Arlington, Charlie Torres, UT Brownsville, Erik Humphrey, UT Pan American, and Julieta Ornelas, UTEP, illustrate the value of the LSAMP Program. (Pictured with Dr. Pablo Arenaz, UT System LSAMP Project Director)
- The UT System LSAMP held its third major symposium, "Creating Pathways for Student Success," in July on the campus of The University of Texas at El Paso. The symposium focused on student retention. Dr. Vincent Tinto's keynote address, "Taking Research on Student Retention Seriously," anchored the symposium.
- Common brochures and advertising materials that can easily be customized for use by each institution were developed. The development of the common application has continued.
- Development and dissemination of methods to assess course effectiveness and curricular reform efforts have continued. This methodology has been shared with all LSAMP partner institutions as well as other Alliances.
- The Summer Bridge and Student Research Programs continue to be supported and successfully prepare UT System LSAMP SMET students for graduate school and the work force.
- Joint graduate school recruiting activities continue. We



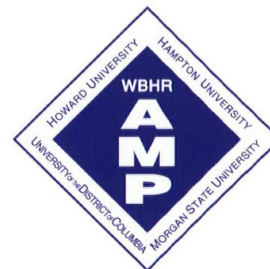
have worked with all partner institutions to implement a mechanism whereby all institutions are represented at a single recruiting booth.

- Dr. Pedro Reyes, the Co PI, conducted the first GRE workshops for SMET students at UT Austin and UT Dallas.
- The joint effort between the UT System LSAMP and the College of Engineering at The University of Texas at Austin to secure funding from the ARCO Foundation to create a mechanism to work with community college counselors and faculty, state-wide, on advising of pre-engineering students has been institutionalized.

## Washington-Baltimore Hampton Roads LSAMP

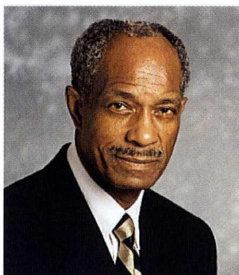


*Dr. Clarence Lee  
Project Director*



- The WBHR-AMP Universities produced 684 SEM graduates.
- The WBHR-AMP Universities had successful tutorial, research traineeship, and retention programs.
- The University of the District of Columbia conducted productive Summer Mathematics Enhancement and Engineering Concepts and Design Institutes.
- A two day Undergraduate Summer Research Conference, where students presented reports on their research projects, was held at Howard University.

## Xavier LSAMP



*Dr. Leonard Price  
Project Director*



- Realization of 370 SEM degrees awarded by the Alliance schools as of June 1998. This figure is up 22% from the baseline figure of 303 degrees awarded in academic year 1994 (base year).

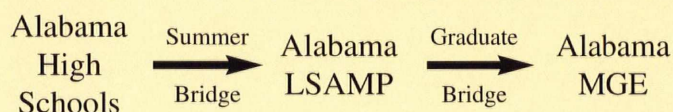
*Continued on page 25*



## Linkages with Programs in the Diversity Continuum

### ALABAMA LSAMP

Since its establishment in 1991, the Alabama Louis Stokes Alliance for Minority Participation has been successful in increasing the quantity and quality of underrepresented minorities receiving Bachelor's degrees in science, engineering, and mathematics. This success is mainly due to the ability of member institutions to form partnerships and linkages with high schools in the service area in order to effectively recruit highly qualified students into science, engineering, and mathematics undergraduate programs. These linkages are evidenced by the popularity of the AAMP Summer Bridge Program. In 1998, Alabama LSAMP began a linkage with the Alabama Minority Graduate Bridge Program, a program designed to increase the number of underrepresented minorities receiving doctoral degrees and entering the professoriate. A Graduate Bridge Program will provide an appropriate linkage with this program.



### CALIFORNIA LSAMP

University of California/CAMP linkages with the national alliances occurred in several ways, including curriculum reform, evaluation, and dissemination. For example, during 1997-98, the student technical writing book, *Writing Science Through Critical Thinking*, developed through UC Irvine's Summer Science Academy, was provided to each LSAMP project director. CAMP continues to provide assistance with assessment and evaluation design to LSAMP programs across the country. Recently the Statewide Office hosted a representative of the Louisiana Alliance for discussions on approaches to data collection. CAMP also shared strategies for tracking students beyond the baccalaureate with the University of Texas LSAMP at their systemwide meeting. And through the CAMP Quarterly, we featured the LSAMP undergraduate conferences held at New Mexico and Montana. On the postbaccalaureate front, the graduate preparation arm of CAMP received supplemental funding from NSF and efforts at two UC campuses will be strengthened by new collaboration with the

California State University, Los Angeles CEA-CREST program. Through the Center for Environmental Analysis, integrated research teams tackle key environmental research questions. The program offers a pathway to careers in the environmental sciences that are intellectually stimulating and socially constructive. The major goal of CREST is to develop outstanding research centers that will produce new knowledge and increase the number of underrepresented minorities with Ph.D.s in science, mathematics, engineering and technology. Participants are groomed for admission to doctoral programs, which special focus on preparing the future professoriate. This new link will optimize cost-sharing, institutional commitment and leadership as well as the impact on higher education systems.

### CALIFORNIA STATE LSAMP

In November at a joint review of LSAMP, CREST, MGE and HBE, the NSF urged greater collaboration between these segments of the Human Resource Development Continuum. In response to this request both the Principal Investigator and the acting Executive Director of the CSU-AMP met with Dr. Carlos Robles, Program Director of the CEA-CREST program based at California State University, Los Angeles. CEA-CREST explained its need for highly qualified students from many SEM disciplines to enter its need for highly qualified students from many SEM disciplines to enter its Master of Science programs at CSULA or its Ph.D. programs offered in conjunction with the University of California. Our AMP office has already informed our twenty campus coordinators about the program, its opportunities for research and its generous stipends for students at both the undergraduate and graduate levels. We are in the process of disseminating this information to our students who may qualify.

### COLORADO LSAMP

- ❖ 3 CO-AMP institutions (Colorado State University, University of Colorado-Boulder, University of Colorado-Colorado Springs) collaborated in the submission of a NSF Minority Graduate Education (MGE) grant
- ❖ Collaboration between CO-AMP and the Navajo Nation—Rural Systemic Initiative



—Navajo Nation-RSI Director, Anselm Davis, Jr., D.Ed., on CO-AMP Steering Committee

—CO-AMP PI/Project Director, Omnia El-Hakim, Ph.D., on Navajo Nation-RSI Steering Committee

—Navajo Nation-RSI Project Director, Roxanne Gorman, presentation to CO-AMP and Tribal Partner meeting, February 10, 1999, at Southern Ute Indian tribe and request for collaboration with CO-AMP to provide student interns, assist with development of summer SMET programs, assist in implementing a SMET conference on the Navajo Nation in spring 2000, and assist in the dissemination of NN-RSI information to appropriate college student organizations.

❖ Collaboration between CO-AMP and the Utah-Colorado-Arizona-New Mexico—Rural Systemic Initiative

—UCAN-RSI Co-PI, Jim Hubbard, on CO-AMP Steering Committee

—CO-AMP Co-PI, Fredrick Stein, Ph.D., on UCAN-RSI Steering Committee

—Dr. Stein's presentations at UCAN-RSI meetings include:

The Importance of Teacher Professional Development

The Pros and Cons of Block Scheduling

—Other joint representation between CO-AMP and UCAN-RSI include CO-AMP partners Lee Briggs (Southern Ute Indian tribe), Yolanda Rossi (Ute Mountain Ute Indian tribe), and Adams State College who hosted a UCAN-RSI state-wide meeting on teacher enhancement

---

## ❧ FLORIDA-GEORGIA LSAMP ❧

Florida A&M University and the University of Florida collaborated in the development of a Minority Graduate Education (MGE) proposal which has been approved and funded. The University of Florida is the lead institution in this initiative. The project expands a long-standing relationship begun under the FG-LSAMP umbrella and focuses on providing research exposure and professional development for students pursuing an academic career in science and engineering. The alliance continues to develop informal linkages with several sites which support our scholars for research internships. We expect that FG-LSAMP will also collaborate with the Florida Collaborative for Excellence in Teacher Preparation.

---

## ❧ HEARTLAND'S LSAMP ❧

The Heartland's Alliance for Minority Participation (HAMP) includes one Historically Black Institution (HBI), Lincoln University of Missouri. Lincoln University's HAMP Summer Science Enrichment Program emphasizes hands-on experience in biology, chemistry, mathematics, and computer science that creates interest and causes students to gain knowledge in these areas. The Summer Science Enrichment Program used an ongoing mentoring project, funded in part by the United States Department of Agriculture (USDA), to reach out to underrepresented minority high school students who expressed interest in agriculture and the sciences. Through this program, Lincoln maintains contact, during the school year, with 20 underrepresented students who participated in the 1998 program. This program is vitally important to building and expanding the pipeline of students who graduate from high school and pursue degrees in science, engineering and mathematics. Lincoln integrated this program into the Lincoln University Summer Enrichment Academy (LUSEA), implemented in the summer of 1998, which attracted 38 students (37 of which were underrepresented minority students).

The University of MO-Columbia was awarded funding by the National Science Foundation to implement a Minority Graduate Education Program (MGE). The MGE program is designed to recruit and train underrepresented minority graduate students as future faculty members in higher education institutions in science, engineering and mathematics (SEM). It is expected that HAMP scholars who graduate with degrees in science, engineering and mathematics would serve as a feeder system to build the pipeline of applicants for the MGE program.

---

## ❧ LOUISIANA LSAMP ❧

Within the state of Louisiana, the Louisiana Alliance for Minority Participation (LAMP) is but one of several programs working together to enhance the SMET curriculum and research infrastructure and to increase the number of underrepresented minorities in science, mathematics, engineering, and technology disciplines. These programs include NASA EPSCoR, LaSPACE (also a NASA program), and DOE EPSCoR to name a few. LAMP students are involved in research in the labs of the NASA and DOE EPSCoR researchers. Annually the DOE EPSCoR and LAMP



host a joint research conference where students present their research, attend graduate preparation workshops, network with national lab personnel, graduate school representatives, and learn about additional research opportunities. This human resource development continuum extends to the newly funded HBCU Undergraduate Program at Southern University and A&M College. Southern University has the distinction of serving as the lead institution for the LAMP program as well as one of three recipients of the HBCU Undergraduate program funded by the National Science Foundation. The program is entitled Strengthening Minority Access to Research and Training (SMART). SMART proposes to build on the achieved infrastructure in place because of LAMP. The strategic plan described in SMART outlines strategies to: (1) develop partnerships for faculty and educational infrastructure; (2) implement an interdisciplinary research training-oriented SEM curriculum; and (3) provide collaborative hands-on research experiences for minority SEM majors of all classifications. The LAMP statewide office provides administration, outreach, and evaluation for the SMART program. Future goals include other synergistic efforts between LAMP, SMART, the Minority Graduate Education (MGE) program and Centers of Research Excellence in Science and Technology (CREST).

---

### MISSISSIPPI LSAMP

At Jackson State University, the lead institution for MAMP, CREST provides undergraduate research opportunities for MAMP students. CREST support for graduate students will also provide opportunities for students to continue their education to the Ph.D. Many of these are expected to be graduates for whom MAMP has provided broad preparation for graduate study. CREST researchers conduct workshops, including molecular modeling, for chemistry departments in MAMP institutions throughout the state. MAMP linkage with other NSF programs which impact the minority student pipeline, K-Doctorate, are also significant. With support from the statewide MAMP team, a \$10,000,000 cooperative agreement for the Delta Rural Systemic Initiative was received from NSF. The Principal Investigator for this new initiative is on the MAMP Executive Committee. Delta RSI serves 106 poor, rural school districts in the region that feeds most MAMP institutions as well as other sister LSAMPs. Focusing on the other end of the educational continuum, the MAMP team is currently par-

ticipating in development of a statewide Minorities in Graduate Education proposal to NSF.

---

### ALL NATIONS LSAMP

The All Nations Louis Stokes AMP hosted the 1998 National AMP Research Conference. This conference brought closer together all of the LSAMPs nationwide. Ideas for improvement were shared and overall LSAMP cohesion was accomplished at this outstanding event.

---

### NEW MEXICO LSAMP

During Phase I of the New Mexico AMP, strong linkages have been developed with New Mexico's two- and four-year partner institutions and with New Mexico Math, Engineering, Science Achievement, Inc. (New Mexico MESA), an exceptionally successful pre-college math and science program, to bring quality students into and through their B.S. degree programs. New Mexico AMP also collaborates with the Regional Alliance for Science, Engineering and Mathematics (RASEM) for Students with Disabilities; and with the Utah, Colorado, Arizona, New Mexico Rural Systemic Initiative (UCAN-RSI) where representation on the UCAN-RSI Steering Committee ensures awareness of mutual goals and promotes awareness of opportunities for New Mexico youth. The New Mexico Collaborative for Excellence in Teacher Preparation (New Mexico CETP) was a direct outgrowth of the New Mexico AMP Teacher Preparation program. The two programs continue to collaborate where appropriate (e.g., the addition of a teacher preparation track in the annual New Mexico AMP Student Research Conference). As we enter Phase II with an increased emphasis on developing our graduate school component, we are actively working to increase collaboration and develop new avenues of growth with programs such as the New Mexico Doctoral Loan Program, the Minority Graduate Education (MGE) program, New Mexico's two national laboratories, and our doctoral degree granting university partners. These efforts will build on the existing network of professors and professional mentors within the New Mexico AMP infrastructure. These existing and new linkages within the HRD continuum will help New Mexico AMP facilitate the success of students as they progress from the B.S. to the Ph.D. degree and beyond to become new university faculty and administrators, national laboratory scientists and



engineers, and exemplary role models for future generations of New Mexicans.

---

## NEW YORK CITY LSAMP

Since its inception, NYC AMP has fostered cooperation with other funded programs to leverage opportunities for students and bring about instructional reform in SMET disciplines at CUNY. NYC AMP has close links to CASI, the Center for Analysis of Structures and Interfaces at The City College of New York, funded under the CREST program. Two of CASI's students, Shiv Singh and Sendy Louis, are AMP research scholars; they are also Barry M. Goldwater scholars and recently were part of the City College team which took top honors at the national meeting of the American Institute of Chemical Engineers in Miami. NYC AMP's partnership with the Urban Systemic Initiative (USI) is dedicated to reforming the teaching of SMET disciplines in New York City's schools, providing SMET enrichment activities for New York City's school children, and offering research-based training to CUNY students interested in becoming SMET precollege teachers. As NYC AMP advances into its second phase, it is seeking closer ties with HBCU's and Tribal Colleges. Through the AMP Virtual Institute, of which NYC AMP assures the Urban Education component, it is exchanging information and expertise with Alliances around the country.

---

## NORTH CAROLINA LSAMP

The NSF Center of Research Excellence in Science and Technology (CREST) Program integrates education with research to produce new knowledge and increase minority student presence in science, mathematics, engineering and technology (SMET) disciplines by making substantial research resources available. At North Carolina A&T State University, the CREST Program "Center for Advanced Materials and Smart Structures" (CAMSS), is in its second year of a ten year partnership with North Carolina State University. CAMSS is an educational and research resource for the state of North Carolina and the nation, in the field of advanced ceramic materials and their composites. Through the collaboration of academe, private industry, and the government in developing basic and applied research programs, there is a focus on student participation and learning. One thrust of Center initiatives is to enhance selected NC-LSAMP

activities through Center involvement.

Through collaborative efforts, the undergraduate summer research experience has been initiated. It is further envisioned that these experiences will expand to subsequent academic years and serve the purpose of inspiring high potential undergraduates to pursue graduate studies in the CREST related areas. Summer research opportunities at the collaborating industry and government facilities for graduate and undergraduate students are being initiated to reinforce the relevancy of the research, and to assist talented students in bridging the gap between engineering theory and practice. An Undergraduate-Graduate Transition Program is already underway for rising and talented seniors, which will include brief exposure to current research issues being addressed by CREST.

---

## PUERTO RICO LSAMP

The main goal of PR-LSAMP is to increase the number of Puerto Rican students who obtain a BS degree in a SMET field and the number of BS graduates who complete a PhD in SMET, either at the University of Puerto Rico or in a doctoral granting institution in the States. The UPR has made it a central priority for the next decade the strengthening of its doctoral programs and the development of the UPR into a first-rate graduate education center. This academic initiative is tied into the islandwide strategy to enhance the production of SMET human resources to meet the demands of Puerto Rico's New Economic Development Model. The recently funded Minority Graduate Education Program together with PR-LSAMP, constitute a catalytic force to accelerate the achievement of the established goals. While PR-LSAMP is strengthening at the undergraduate level the SMET curriculum and the teaching/learning strategies, together with providing students with challenging research experiences and mentoring strategies, so as to significantly increase the number of SMET BS graduates, MGE in a concerted effort with PR-LSAMP, will optimize institutional capabilities in the recruitment, retention, and graduation of students in PhD programs. By envisioning the educational system as a continuum from K to the graduate level, the three NSF sponsored systemic reforms: PR-SSI (K-12), PR-LSAMP (13-16) and MGE (graduate level), are providing Puerto Rico with a systemic pipeline strategy to increase human SMET resources.



---

## ☞ SOUTH CAROLINA LSAMP ☞

- SCAMP alliance institutions currently are not participating in any of the three HRD continuum programs. However, under the research/education infrastructure focus of the National Science Foundations Education and Human Resources: Division of Human Resource Development, we are very proud of Ms. Susan Lasser from Clemson University, Clemson SC, who was awarded the Presidential Award for excellence in science, mathematics, and engineering mentoring.

---

## ☞ SUNY LSAMP ☞

SUNY AMP has been so successful in meeting program goals because of its ability to use and build on existing linkages with other programs, grants, institutions, and businesses. Some examples of these linkages are with -

### *NSF Programs:*

RAIRE (Research Award for the Integration of Research and Education)

LICIL (Long Island Consortium for Interconnected Learning in Quantitative Disciplines)

WISE (Women in Science and Engineering)

MRSEC (Materials Research Science and Engineering Center)

MSTe (Math, Science and Technology in Elementary Schools)

### *Other Federal Grants:*

BioPrep, sponsored by the National Institute of Health

MARC (Minority Access to Research Careers), sponsored by the National Institute of Health

### *New York State Programs:*

Graduate Minority Fellowships

CSTEP (Collegiate Science and Technology Entry Program)

STEP (Science and Technology Entry Program)

### *Industry:*

BP Amoco's EngiPrep Program

Computer Associates' SUNY AMP Scholarship Program

Brookhaven National Laboratory's Research Placements

Internships at Lucent Technologies and over 20 other companies

---

## ☞ TEXAS LSAMP ☞

Texas AMP has tried to continue its linkages with other programs in the Human Resource Development Continuum such as the HBC, MGE and other LSAMPS. (1) We offer stipends to Science, Engineering, Mathematics and Technology (SMET) students at Prairie View A&M University, one of our senior institutions and also a HBC. We also offer faculty mentors to AMP students and provide the institutions with the means to design programs and activities to encourage students' academic growth. Thus, African Americans, historically underrepresented in SMET disciplines are encouraged to persist in their academic goals. (2) We have continued to aid the transition of undergraduate students into graduate SMET programs by means of activities and programs at Prairie View A&M University, Texas A&M- Corpus Christi and Texas A&M University-College Station and Texas A&M International University- Laredo. AMP activities expose minority SMET students to state of the art technology, current research in progress at the institutions and the opportunity to present in professional conferences. Faculty mentors encourage students to pursue current studies in advanced degrees in SMET disciplines. (3) Texas AMP is one of the six other LSAMPS specialized Virtual Centers (VC) which form an integrated network, the AMP Virtual Institute (AMP-VI). Although independent, the Virtual Centers share a common set of goals and interact with each other to build linkages, exchange and disseminate information.

---

## ***Highlights and Accomplishments (continued)***

- Eight schools (Fisk, Jarvis Christian, Philander Smith, Shaw, St. Augustine's, St. Paul's, Virginia Union, Xavier) implemented bridge programs in which 77 incoming AMP SEM freshmen participated.
- Eight schools (Fisk, Huston-Tillotson, Jarvis Christian, Philander Smith, Shaw, St. Augustine's, Virginia Union, Xavier) had approximately 50 of their AMP rising sophomores engaged in research programs in the summer of 1998.
- A total of 85 faculty members participated in 54 individual program activities in 1998 including recruiting, curriculum revisions, research mentoring, tutorial sessions, field trips, and other support services.



# Alabama Louis Stokes Alliance for Minority Participation

The University of Alabama at Birmingham  
Alabama A&M University Miles College  
Auburn University Stillman College  
Alabama State University

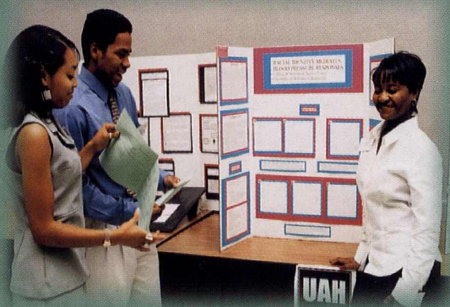
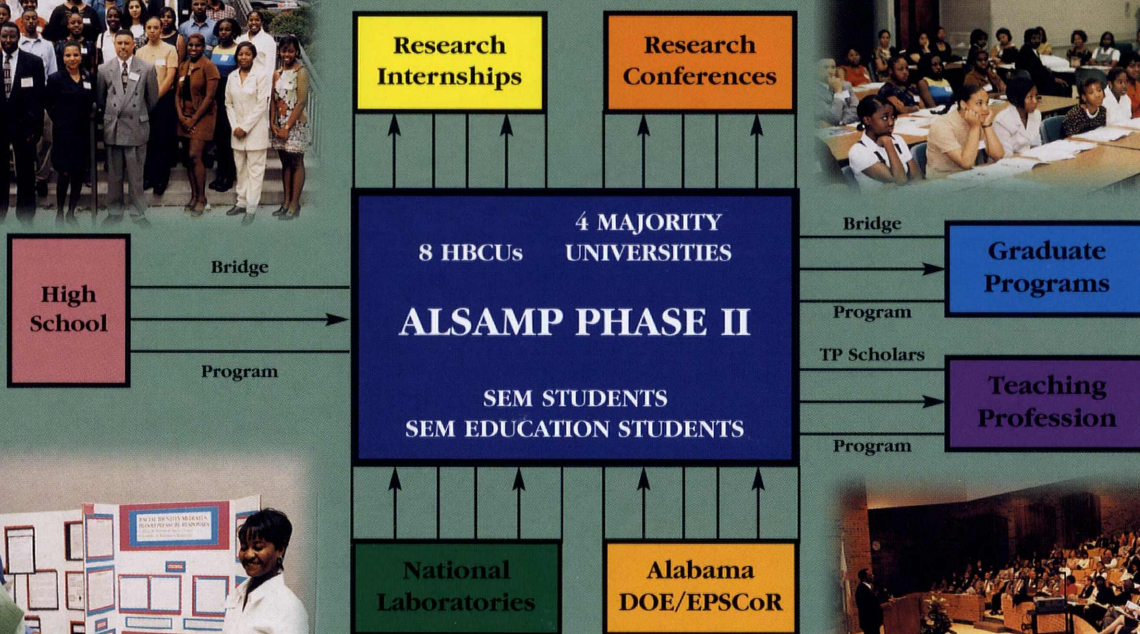


The University of Alabama in Huntsville  
Tuskegee University Oakwood College  
Talladega College Tougaloo College  
The University of Alabama

***Increasing the Quantity and Quality of Minority Students  
receiving degrees in science, engineering, mathematics, and science education***

## The Alliance

*The Alabama Louis Stokes Alliance for Minority Participation program began in 1991 with eight Historically Black Colleges and Universities and The University of Alabama at Birmingham. Conceived and initiated by ten Black faculty members at these institutions with Ph.D. degrees in mathematics and science, the Alliance had a single goal of significantly increasing the number of minorities receiving bachelor's degrees in science, engineering, and mathematics in Alabama and parts of Mississippi. Today the Alliance membership includes all of the major colleges and universities in Alabama.*



## Alliance Programs

- Summer Bridge
- AMP Scholars
- Summer Research Internship
- AMP DOE/EPSCoR
- Graduate Bridge
- SEM Drop-In Center/Cooperative Learning
- AMP Summer Research Conference
- SEM Mentoring
- Teacher Preparation

## Program Results

Year	1991	1992	1993	1994	1995	1996	1997	1998
B.S. Degree	437	613	603	668	757	882	939	953



Berkeley Davis Irvine Los Angeles Riverside  
Santa Barbara Santa Cruz San Diego  
**CAMP @ University of California**

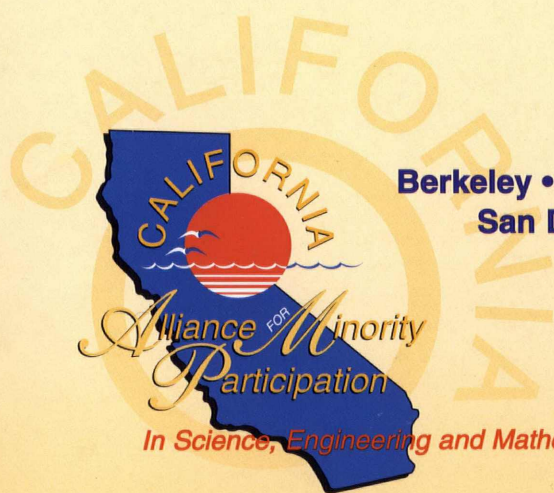


*Dr. Francisco Ayala, center, renowned evolutionary biologist, is congratulated on the Distinguished Scientist Award by Nobel laureate Sherwood Rowland, left, and UCI Chancellor Ralph Cicerone, right. Ayala is the third UC faculty member to receive the award from SACNAS. He is an ardent faculty mentor and a CAMP Statewide Advisory Board member.*

## ACHIEVING MEASURABLE GOALS

CAMP has helped the University of California realize a 73% increase in the number of B.S. degrees granted to minorities in science, engineering and mathematics since the baseline year. The involvement of prominent faculty distinguishes CAMP, currently in its eighth year, from similar programs. Faculty mentoring achieves a multiplier effect, resulting in personal and professional growth for undergraduates through research experiences including co-authoring a scientific paper. Throughout the University of California, indicators of excellence abound. For

example, at UC Santa Cruz, 130 undergraduates have received CAMP support for summer research, enhancing their competitive standing for advanced study. UC Santa Barbara has doubled the number of students pursuing the K-12 credential in science and mathematics through the Math Teaching Fellows. CAMP presenters consistently earn recognition at professional meetings. At AAAS 1999, program participants competed with graduate students from across the nation and the world to earn a total of nine honorable mentions. Seven UCI CAMP students won MAZDA/National Hispanic Scholarships. Others have been interviewed for summer positions at the National Laboratories. With strong collegial support, CAMP opportunities foster student success in university culture and laboratory productivity. New collaborations, such as with CEA-CREST (Center for Environmental Analysis) at Cal State LA, will further increase the success rate of transition to graduate school for the Ph.D.



**Berkeley • Davis • Irvine • Los Angeles • Riverside  
San Diego • Santa Barbara • Santa Cruz**

---

Administrative Center for CAMP is UC Irvine  
Nicolaos Alexopoulos, *Dean, School of Engineering, P.I.*  
Manuel N. Gómez, *Vice Chancellor, Statewide Director*  
Marjorie DeMartino, *Associate Statewide Director*  
e-mail: [camp@uci.edu](mailto:camp@uci.edu) • [www.camp.uci.edu](http://www.camp.uci.edu)  
Phone: (949) 824-6578

Berkeley Davis Irvine Los Angeles Riverside  
Santa Barbara Santa Cruz San Diego



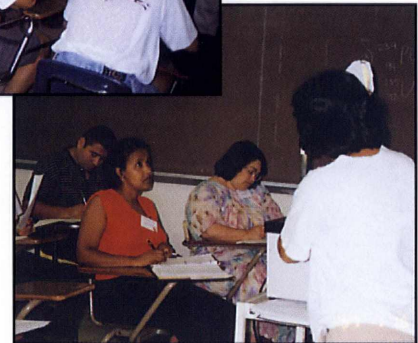
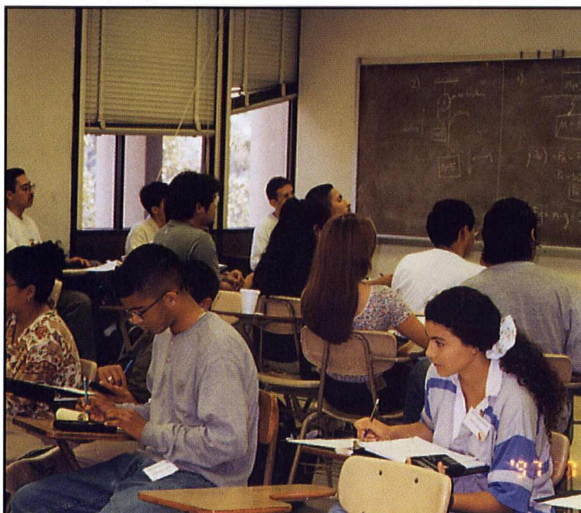


# The California State University, a Louis Stokes Alliance for Minority Participation

The California State University Alliance is composed of twenty-two of its state campuses and 25 of the 107 California Community Colleges. It is now beginning the first year of its Phase II proposal.

The Phase II proposal incorporates the freshman summer bridge of the Phase I AMP, but the new program will place greater emphasis on Academic Year workshops, especially for community colleges, and research opportunities and mentoring, especially for four year college students.

Phase I's summer bridge for freshmen demonstrated, once again, that such programs have a dramatic effect on first year retention. However, since a significant fraction (50% or more) of our SEM graduates begin their academic careers in community colleges, we felt that an emphasis on Academic Year workshops in "gateway" courses at both 2 and 4 year colleges would be especially beneficial for our targeted minority students. Workshops in these introductory courses will be followed by workshops in more advanced courses and by internships or research assistantships for students with demonstrated potential for graduate study, while they are still junior or senior level undergraduates.



Our Summer workshops and our Academic Year workshops both stress collaborative study and academic excellence, but our summer courses are concentrated in a four week period, while our AY workshops are distributed uniformly over the 30-40 weeks of annual instruction and offer a greater opportunity to develop a sense of community as well as improved academic performance and retention.

Unfortunately, we cannot offer all students internship or research opportunities, but we offer all of them the information about their existence and the opportunity to compete for these openings through their academic achievement and their participation in all other aspects of AMP.

## ◆ ◆ ◆ ◆ ◆ ◆ ◆ ◆ ◆ ◆ CSU AMP ADMINISTRATION

### **Chair, Governing Board**

Dr. Charles Reed, Chancellor / California State University

### **Principal Investigator**

Dr. A. F. Ratcliffe, Dean Emeritus / CSU Northridge  
College of Engineering & Computer Science

### **Acting Executive Director**

John Guarrera / CSU Northridge  
College of Engineering & Computer Science

### **Program Administrator**

Michelle Manchester / CSU Northridge  
College of Engineering & Computer Science

### **Fiscal Management**

San Francisco State University

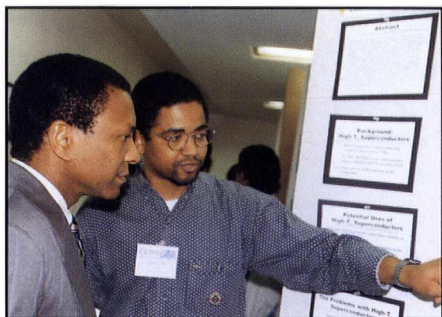




*Chicago Alliance for Minority Participation*

## INFORMATION ABOUT THE ALLIANCE

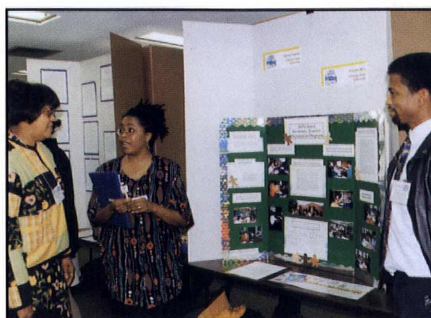
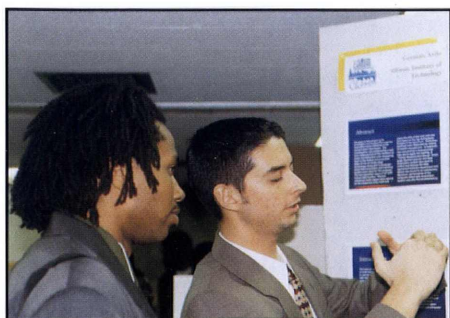
Participating Institutions: Chicago State University -  
DePaul University - Governors State University- Illinois



Institute of  
Technology-  
Illinois State  
University -  
Loyola University-  
Northeastern  
Illinois University-  
Northwestern  
University-  
Southern Illinois

University Carbondale - Southern Illinois University  
Edwardsville -University of Illinois at Chicago -  
Western Illinois University - Richard J. Daley College -  
Olive-Harvey College - Harold Washington College-  
Wilbur Wright College - Kennedy-King College-  
Malcolm X College - South Suburban Community  
College - St. Augustine College - Harry S Truman  
College

Research Organizations: Argonne National Laboraories,  
Abbott Laboratories, University of Minnesota, Lucent  
Technologies, University of Chicago, University of Iowa,  
and Metro Chicago Information Center.



The Chicago Alliance for  
Minority Participation  
(ChAMP) is composed  
of 12 comprehensive uni-  
versities; nine communi-  
ty colleges and research  
organizations participat-  
ing in a collaborative

effort to improve the quality of science, mathematics,  
engineering, and technology education for minority stu-  
dents. Each of these organizations has made a commit-  
ment of faculty, staff, research facilities, and technical  
assistance to ensure successful opportunities for students  
participating in the ChAMP program.

Each year there is an Annual Student Research  
Conference held at participating ChAMP institutions.  
ChAMP undergraduate research scholars are featured.  
These conferences provide faculty members and students  
from the Alliance institutions an opportunity to come  
together in comradery to share results of research, com-  
pare notes, relate experiences, and to develop closer rela-  
tionships.

ChAMP has now incorporated Southern Illinois  
University-Carbondale and  
Edwardsville and the Illinois  
State University in the  
Alliance. With the addition

of these institutions, the  
Chicago AMP is focusing on  
providing a more compre-  
hensive platform to plan initia-  
tives to increase the number  
of underrepresented minorities in SMET in the state of  
Illinois. A key strategy of the Chicago Alliance is to  
build upon the pre-existing network among the schools so  
all students and faculty can take advantage of the most  
successful programs offered at each institution. Activities  
at participating institutions include:



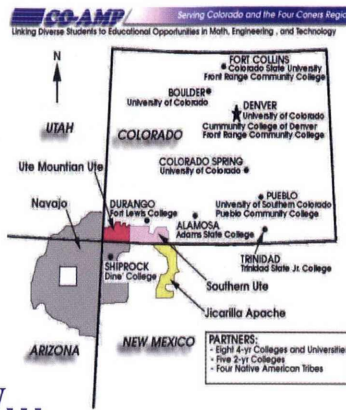
- Hands-on Research Opportunities
- Science Conferences
- Facilitated Study Group Sessions
- Peer Mentoring Activities
- Internships
- Summer Bridge Research Programs
- Tutoring Programs
- Financial Aid/Tuition Waiver
- Career Exploration Series
- Educational Workshops/Projects





**CO-AMP  
Colorado Alliance  
for Minority Participation**

*Linking diverse students to educational opportunities  
in science, math, engineering, and technology*



**CO-AMP SERVES STUDENTS IN...**

Colorado and the Four Corners Region. Our goal is to double the number of underrepresented minority baccalaureate degree-graduates in the Science, Mathematics, Engineering, and Technology disciplines by the year 2001. CO-AMP has eight baccalaureate-degree granting colleges and universities partners, four community college partners, and one tribal college partner. CO-AMP is also proud to serve the Jicarilla Apache, Navajo Nation, Southern Ute Indian, and Ute Mountain Ute Native American communities as we collaborate on ways to increase the pipeline of American Indian students going on to obtain college educations.

**CO-AMP INSTITUTIONS...**

- ❖ Adams State College
- ❖ Colorado State College
- ❖ Community College of Denver
- ❖ Diné College
- ❖ Fort Lewis College
- ❖ Front Range Community College
- ❖ Metropolitan State College of Denver
- ❖ Pueblo Community College
- ❖ Trinidad State Junior College
- ❖ University Colorado-Boulder
- ❖ University Colorado-Colo.Spg
- ❖ University Colorado-Denver
- ❖ University Southern Colorado

**CO-AMP'S FOCUS IN YEAR 3...**

- ❖ The RETENTION, RETENTION, RETENTION of CO-AMP Students
- ❖ The implementation and continuation of Transfer Bridge Programs from community colleges to baccalaureate degree-granting colleges and universities
- ❖ Increasing the institutionalization of CO-AMP participating programs at colleges and universities
- ❖ Increasing funding from corporate and government agency partners
- ❖ Encouraging and motivating CO-AMP students to pursue graduate programs
- ❖ Increase faculty involvement in CO-AMP activities
- ❖ Offer faculty development opportunities



*From Left: Dr. Roosevelt Calbert, Division Director, Dr. Omnia El-Hakim, Co-AMP PI and Director HRD and Professor of Civil Engineering of CSU and FLC, Dr. Art Hick, AMP Program Director, Dr. Jud Harper, V.P. of Research and Information Technology of Colorado State University.*

**Visit Our Web Site: <http://lamar.colostate.edu/~coamp>**

**CO-AMP KEY PERSONNEL**

*Omnia El-Hakim, Ph.D.*  
Principal Investigator and Project Director  
Professor of Civil Engineering  
Colorado State University & Fort Lewis College  
(970) 491-2656 (CSU); Fax (970) 491-3421  
(970) 247-7160 (FLC); Fax (970) 247-7206  
omnia@enr.colostate.edu

*To Be Announced*  
Program Manager  
College of Engineering  
Colorado State University  
(970) 491-2898; Fax (970) 491-3421  
bmartin@enr.colostate.edu

*Tricia Wright*  
Administrative Assistant (CSU)  
(970) 491-2978; Fax (970) 491-3421  
wright@enr.colostate.edu

*Shelley Hartney*  
Administrative Assistant (FLC)  
(970) 247-7206; Fax (970) 247-7206  
hartney\_s@fortlewis.edu

*A. Rose Shaw, Ph.D.*  
Program Evaluator  
Metrica, Inc.  
(970) 330-3161; Fax (970) 491-3421  
rose.shaw@omn.com

*Don May, Ph.D.*  
WebAMP Data Consultant (FLC)  
(970) 247-7545; Fax (970) 247-7206  
may\_d@fortlewis.edu

**GOVERNING BOARD CHAIR**

*Albert Yates, Ph.D.*  
President, Colorado State University  
Chancellor, Colorado State University Systems

**CO-PIs/MANAGEMENT TEAM**

*Hector Carrasco, Ph.D.*  
Dean, College of Applied Science  
& Engineering Technology  
University of Southern Colorado

*Johannes Gessler, Ph.D.*  
Interim Dean, College of Engineering  
Colorado State University

*Germán R. Núñez G., Ph.D.*  
Director, Minority Engineering Program (MEP)  
University of Colorado-Boulder

*Fred W. Smith, Ph.D.*  
Professor, Dept. of Mechanical Engineering  
Colorado State University

*Fredrick M. Stein, Ph.D.*  
Director, Center for Science, Mathematics, and  
Technology Education (CSMATE)  
Colorado State University

**TRIBAL PARTNERS**

Jicarilla Apache Tribe – Ms. Frieda Havens  
Navajo Nation – Mr. Eddie Biakaddy  
Southern Ute Indian Tribe – Mr. Lee Briggs  
Ute Mountain Ute Tribe – Ms. Yolanda Rossi





# FG-LSAMP



## STUDENTS' PERSPECTIVE

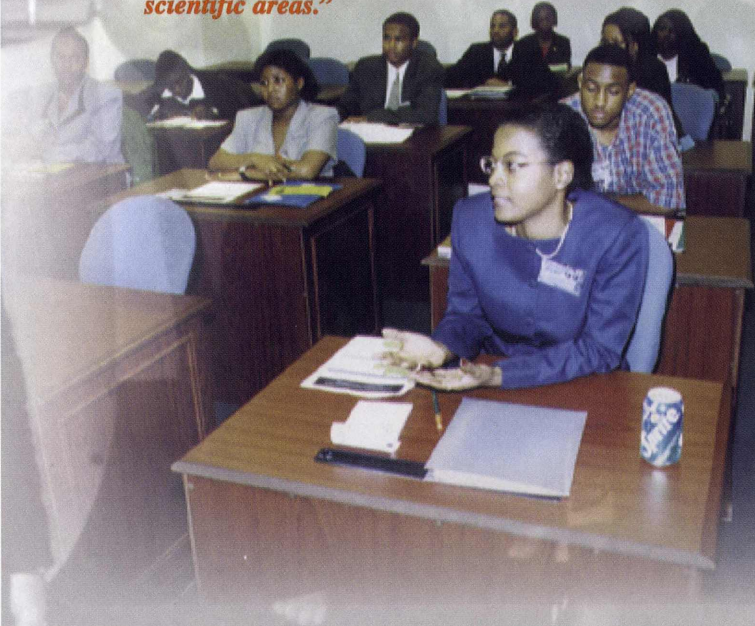
*“Working with FG-LSAMP undergraduate students has been a source of tremendous excitement and accomplishment as I pursue my ultimate goal of becoming a university professor.”*

*“The FG-LSAMP infrastructure is needed to teach teamwork and dedication, more of a holistic approach to learning.”*

*“The FG-LSAMP internship experience I received at the National High Magnetic Laboratory at Florida State University, has greatly enhanced my knowledge in research and increased the level of exposure in certain scientific areas.”*

The Florida-Georgia Louis Stokes Alliance for Minority Participation (FG-LSAMP) is a cohort of thirteen institutions dedicated toward increasing the number of underrepresented minority students receiving B.S. degrees in Science, Engineering, and Mathematics (SEM) disciplines. Partner institutions in the FG-LSAMP include: Albany State University, Bethune-Cookman College, Florida A&M University, Florida International University, Florida Memorial College, Florida State University, University of Central Florida, University of Florida, University of Miami, University of South Florida, Florida Community College @ Jacksonville, Miami-Dade Community College and Tallahassee Community College.

The FG-LSAMP is in Phase II of its operation and currently serves more than 800 undergraduate students. In the Phase II, the Alliance will continue those enhancement activities which have contributed to our students' success. In addition the Alliance has introduced activities which subscribe to the undergraduate and graduate education continuum. It is the goal of the FG-LSAMP to direct a significant number of SEM B.S. participating students into Ph.D. programs in the SEM areas. The levels of student persistence (timely movement toward the B.S. degree) and progression in SEM remains high. The Alliance's focus on summer research internships provides experiential opportunities for all students. Alliance partners are involving larger numbers of faculty in FG-LSAMP activities to promote institutionalization of the best practices' of the FG-LSAMP model. Support from the governing board continues to influence project direction.







# THE HEARTLAND'S ALLIANCE FOR MINORITY PARTICIPATION

## Heartland's AMP Prepares Students to Meet the Challenges



Heartland's AMP has sponsored its own statewide student research symposium to give students in Missouri a forum to present research in which they have participated and, in the process, **gain valuable experience** in making scholarly presentations. The symposium also provides a system by which students are chosen to represent the Heartland's AMP at national and regional research conferences.

The first HAMP research symposium, held in 1997 at the University of Missouri-Kansas City, was a success with 19 students making presentations and 95 persons attended. The 1998 symposium was held at the University of Missouri-Rolla. In the second year 40 students made research presentations and 120 persons attended. In the second year there was a noticeable improvement in scholar presentations.

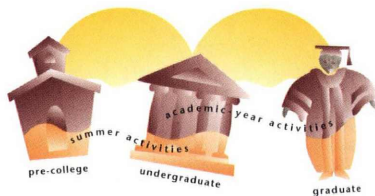
By demonstrating an ongoing commitment to diversity, equality and excellence in life and physical sciences at Missouri's institutions of higher education, the Heartland's AMP can insure that underrepresented students in the state have every opportunity to live up to their intellectual potential. HAMP partners are acknowledged for the strides they have made toward achieving the goals that were set and it is anticipated that even greater progress will be made in the coming years of the project. ❖

**H**AMP Institutions have made dramatic and sustainable increases in both the quality and quantity of underrepresented students receiving baccalaureate degrees in science, engineering and mathematics. These students are going to graduate school, taking jobs in business & industry and assuming positions that assure that this country will continue its role as the technological leader in the world market.

One of the activities sponsored by the Heartland's AMP is the HAMP Research Symposium. For the last two years, the

### OUR MISSION

The Heartland's Alliance for Minority Participation is a comprehensive, multi-disciplinary program designed to significantly increase the quantity and quality of underrepresented students who receive baccalaureate and graduate degrees in science, engineering and mathematics.



### OUR GOALS

The Heartland's Alliance for Minority Participation has two performance-based goals:

- to increase the number of underrepresented students who receive *undergraduate* degrees in science, engineering and mathematics disciplines by 15 percent per year for five years
- to increase the number of underrepresented students who receive *graduate* degrees in science, engineering and mathematics disciplines by 50 percent over a period of five years

**PROJECT DIRECTOR**  
Charles Sampson,  
Ph.D.

**SENIOR PROJECT MANAGER**  
Richard Presberry,  
Ph.D.

**ADMINISTRATIVE ASSISTANT**  
Lisa Licklider

#### PARTNERS:

Central Missouri State University

Lincoln University

Metropolitan Community Colleges of Kansas City

St. Louis Community College System

Southeast Missouri State University

Southwest Missouri State University

University of Missouri-Columbia

University of Missouri-Kansas City

University of Missouri-Rolla

University of Missouri-St. Louis

University of Missouri System

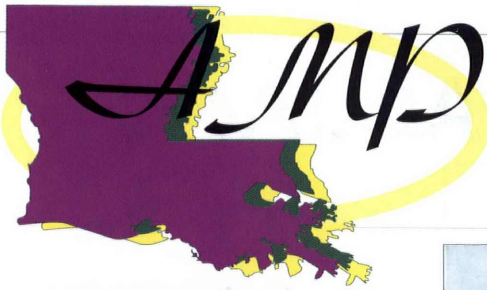
Missouri Coordinating Board for Higher Education

Missouri Department of Conservation

Missouri Department of Elementary and Secondary Education

Missouri Department of Natural Resources





# LOUISIANA ALLIANCE FOR MINORITY PARTICIPATION

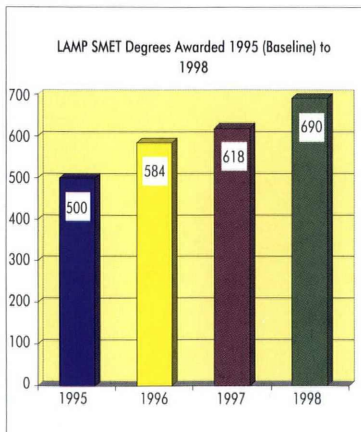
(Right) Tulane LAMP Campus Coordinator Henry Bart and LAMP Scholars Monita Chambers and Rheneisha Mable in the Mississippi River basin collecting specimen for their research. (Below) Dillard LAMP Scholar Rose-Ann Blenman.



The Louisiana Alliance for Minority Participation (LAMP) is a comprehensive statewide coordinated program aimed at substantially increasing the quantity and quality of minority students enrolling in and completing baccalaureate degrees in Science, Mathematics, Engineering, and Technology (SMET) areas. This alliance is composed of 11 institutions and the Louisiana Universities Marine Consortium (LUMCON).

### ◆ GOAL

The goal of LAMP is to increase the number of minority students at the participating institutions who receive bachelor degrees in SMET disciplines. In quantitative terms, the overall goal of LAMP can be restated as the following two objectives: (1) double the number of minority SMET Bachelor degrees awarded at LAMP institutions between 1994-1995 and 1999-2000 from approximately 500 to 1000 and (2) place 20 percent of minority SMET B.S. graduates from LAMP institutions into graduate programs.



### ◆ STRATEGY

LAMP's strategy is centered on enhancing and coordinating existing SMET pipeline activities at the partner institutions, supporting undergraduate research activities and introducing strategic statewide, regional and academic research

activities to promote networking and technology exchanges. LAMP continues the expansion of Louisiana's SEM infrastructure and is cooperating with several systemic initiatives (including the EPSCoR programs) coordinated through the Louisiana Board of Regents.

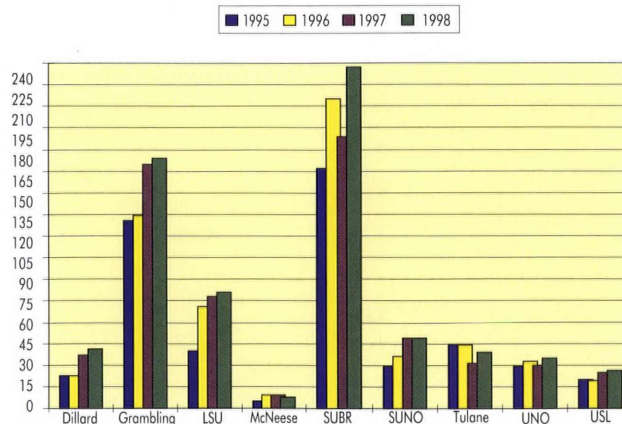
### ◆ ACTIVITIES

LAMP activities are designed to achieve the goals of the project which are: recruitment of pre-college, junior division community college, and SMET students; bridge activities; direct financial support, mentoring and cooperative learning; advisement, tutoring, monitoring, skills enhancement, professional development; curriculum reform; infrastructure improvement, research participation, and graduate school preparation, course selection, GRE practice, and graduate school recommendations.

### ◆ GOVERNING BOARD

The LAMP Governing Board serves in an advisory capacity to the program. Dr. E. Joseph Savoie, Louisiana's Commissioner of Higher Education, serves as the Chair of the LAMP Governing Board. Members include the Chief Executive Officers (CEO) of all LAMP partner institutions.

SMET Minority Degrees Awarded Overtime  
1995 (Baseline Year) to 1998





# UNIVERSITY SYSTEM OF MARYLAND LOUIS STOKES ALLIANCE FOR MINORITY PARTICIPATION



## PROGRAM HIGHLIGHTS INCLUDE

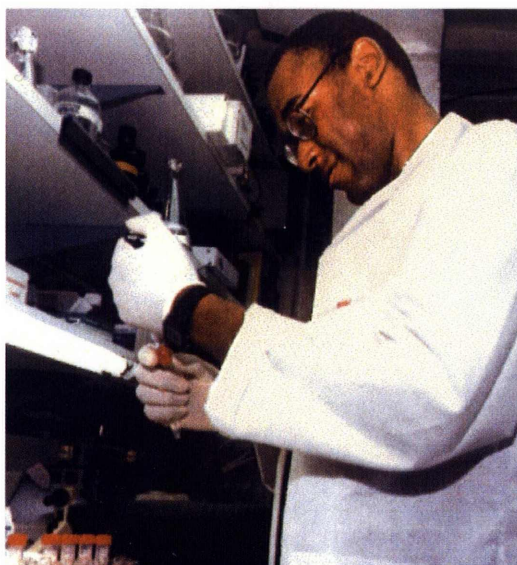
- Undergraduate Research Experiences
- Summer Bridge Program
- Mentors
- Academic Support
- Social and Behavioral Sciences Initiative
- Financial Assistance



**USM LSAMP** partner institutions include the University of Maryland, Baltimore County (lead institution), the University of Maryland, College Park, University of Maryland, Eastern Shore, and the 18 public community colleges in Maryland.



Non-academic partners include the National Science Foundation and a host of businesses, agencies, foundations, and individuals that provide various forms of support for **LSAMP** scholars and program activities.



## HONORS & AWARDS

- **LSAMP** scholars inducted in Phi Beta Kappa
- **LSAMP** scholars received GEM Fellowships
- **LSAMP** scholars won first place in both Life Sciences and Physical Sciences at the 6th Annual NSF/AMP Student Research Conference in Montana





# Metropolitan Detroit Alliance for Minority Participation

## MDAMP Administration at Wayne State University

Hanley N. Abramson  
Principal Investigator

Daniel A. Walz  
Co-principal Investigator

William E. Hill  
Director

Marie Colombo  
Evaluation

## Partner Institutions:

Lawrence Technological University  
Elaine M. Dowell

Madonna University  
Ellen Oliver Smith

Oakland University  
Bhushan L. Bhatt  
Lynn Hockenberger

Michigan State University  
Estelle J. McGroarty  
Charles H. Roberts

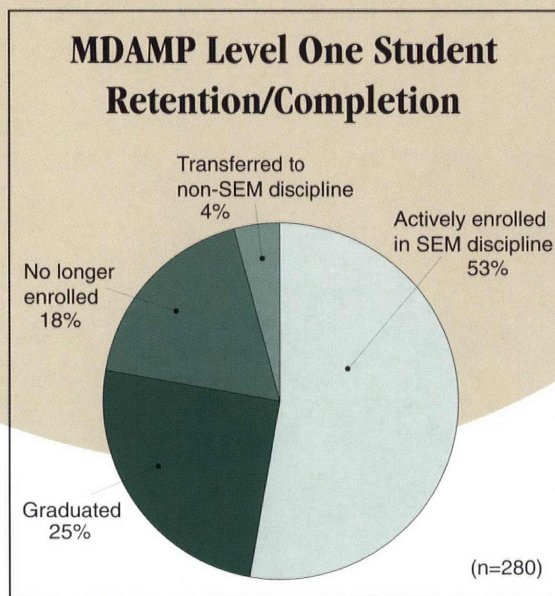
University of Detroit Mercy  
Carolyn Rimle

University of Michigan-Dearborn  
Charlotte Otto  
Keshav Varde

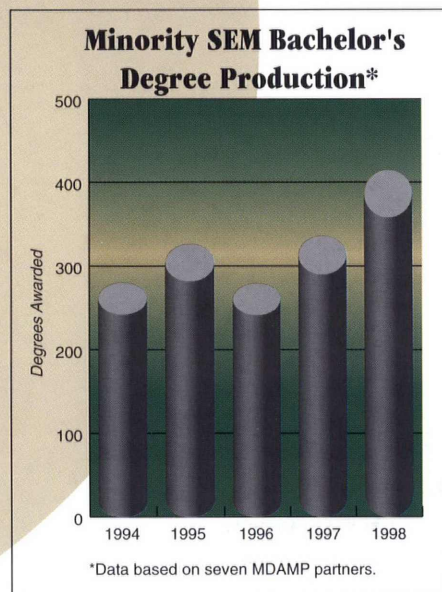
Wayne State University  
William E. Hill

Metropolitan Detroit Alliance for Minority Participation (MDAMP) has made significant progress in the retention and graduation rates of underrepresented minority students in SEM disciplines in its four years of operation. Making these accomplishments particularly noteworthy is the fact that MDAMP is a consortium of primarily urban, commuter institutions serving a large proportion of nontraditional students. This student body presents unique challenges and opportunities to higher education institutions. MDAMP is proud that in four years:

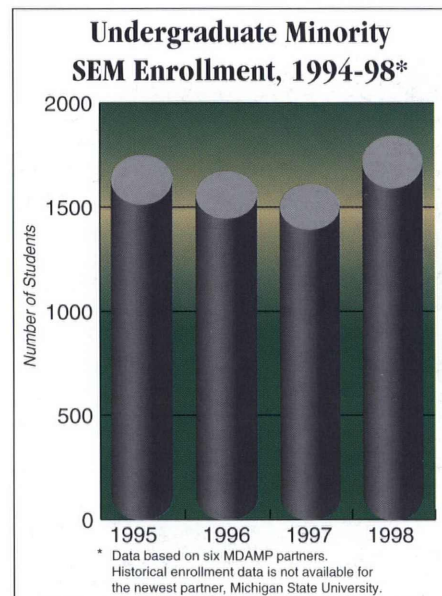
- The number of baccalaureate degrees earned by underrepresented minority students in SEM disciplines increased 48 percent, from 288 to 426.



- In spite of an overall 16 percent decline in undergraduate enrollment at six of the seven partner schools, those institutions experienced a 10 percent increase in underrepresented minority SEM enrollment.
- The breadth and scope of services at each partner campus has increased. In 1998, partners reported participation by nearly 800 minority students in various MDAMP-sponsored activities.
- In 1998, 174 students received direct financial support; many more participated in faculty-led research projects and attended professional conferences.
- Seventy-eight percent of MDAMP-supported students have either graduated or continue to progress in their SEM studies.



- There is evidence of the institutionalization of program elements on all partner campuses.



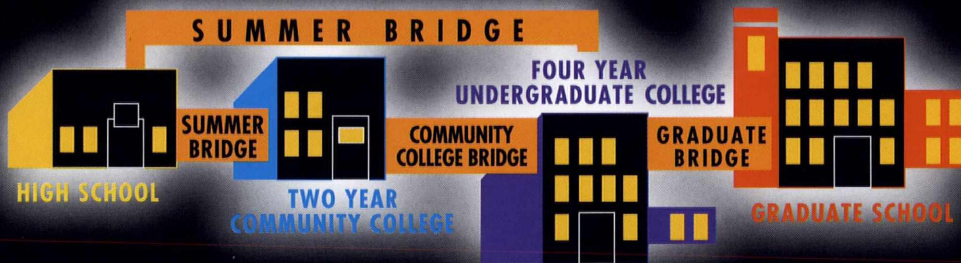
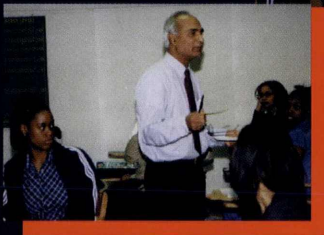


# MAMP

MID-SOUTH ALLIANCE FOR MINORITY PARTICIPATION

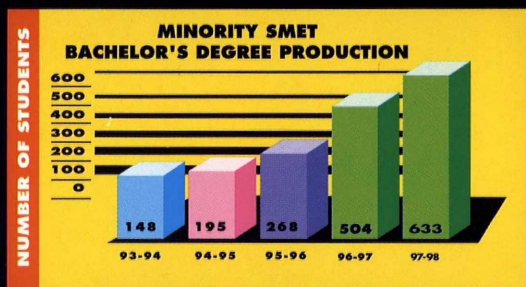
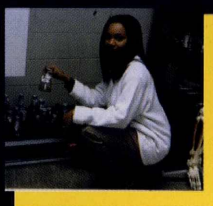
## DEVELOPING FUTURE LEADERS IN SCIENCE, MATHEMATICS, ENGINEERING AND TECHNOLOGY

The Mid-South Alliance for Minority Participation (MAMP) began in 1995 as a partnership among eight institutions of higher education and three community based agencies in the mid-south area of Tennessee, Arkansas and Mississippi. LeMoyne-Owen College is the lead institution. Today the Alliance has increased its membership to eleven institutions of higher education. They include the largest Tennessee Board of Regents (TBR) undergraduate institution, the largest Tennessee Community College, the largest Tennessee Two-Year Technical Institute, a private college with forty seven percent of its students majoring in engineering and science and the fastest growing community college in Arkansas. MAMP is an Alliance of private colleges, minority colleges, state colleges, community colleges, and community based agencies committed to increasing the quality and quantity of underrepresented minority students who receive bachelor's degrees in science, mathematics, engineering and technology (SMET).



### ALLIANCE PROGRAMS

- MAMP SCHOLARS
- SUMMER BRIDGE
- GRADUATE BRIDGE
- MAMP MENTORING
- COMMUNITY OUTREACH
- RESEARCH INTERNSHIP
- INDUSTRY INTERNSHIP



**Jesse F. McClure, Ph.D., Project Director**  
jesse\_mcclure@nile.lemoyne-owen.edu

**Oristyne E. Walker, Ph.D., Associate Project Director**  
oristyne\_walker@qm.lemoyne-owen.edu



# MISSISSIPPI

ALLIANCE FOR

## MINORITY PARTICIPATION



MAMP is a statewide alliance of Mississippi's eight publicly supported universities. They are Alcorn State University, Delta State University, Jackson State University, Mississippi State University, Mississippi University for Women, Mississippi Valley State University, University of Mississippi, and University of Southern Mississippi. The alliance has facilitated a doubling of the number of minority students earning degrees in science, mathematics, engineering and technology since 1991 in Mississippi universities.

•**Scholarships:** MAMP scholars at each institution are partially supported by performance-based scholarships. They form the core of student participants on each campus.

•**Summer Bridge Program:** A 4-6 week residential program on each campus incorporates both academic and life skills activities to "bridge the gap" between high school and the freshman year of college.

•**Undergraduate Research Experiences:** IMAGE Scholars are encouraged to link with a faculty member in his/her discipline to develop research skills during the academic year. These research experiences are facilitated by linking with other sponsored programs on each campus such as EPSCoR. Student research presentations at the Mississippi Academy of Sciences, the AMP Summer Research Conference, and other forums give students valuable experience and opportunities for interaction with their peers and SMET professionals in their discipline.

### Business/Industry/Government

**Linkage:** MAMP develops and disseminates internship opportunities in academia (including REUs), industry and national laboratories and assists students with application and placement.

Linkage with the Naval Research Laboratory at Stennis Space Center provides competitive opportunities for summer research internships for MAMP students after completion of the freshman year.

•**Drop-in Centers:** Activities include individual tutoring, computer-assisted instruction, study groups and meetings with faculty and peer mentors.

•**Workshops:** Workshops, including GRE Prep, "Guaranteed 4.0," and PRAXIS are conducted to assist students with reaching their goals of high achievement. Mentoring workshops help students focus early on plans for graduate study. Annual statewide retreats bring MAMP students and faculty from all eight institutions together for networking, and to review and revise, as necessary, MAMP sponsored activities.

•**Curriculum Reform:**-MAMP's goal is to disseminate information across universities and across campuses about what is going on in SMET curriculum reform; and to stimulate plans for future action. The most successful curriculum reform activities to date have focused on the use of technology, cooperative learning, and peer mentoring to enhance student achievement.

•**New Initiatives:** Teacher education and the social science disciplines have been integrated into the MAMP structure, making a strong addition to the interdisciplinary framework from which MAMP addresses pipeline issues. Linkage with the NSF-funded Delta Rural Systemic Initiative addresses pre-college pipeline issues in the region.

### Bridge to Graduate School

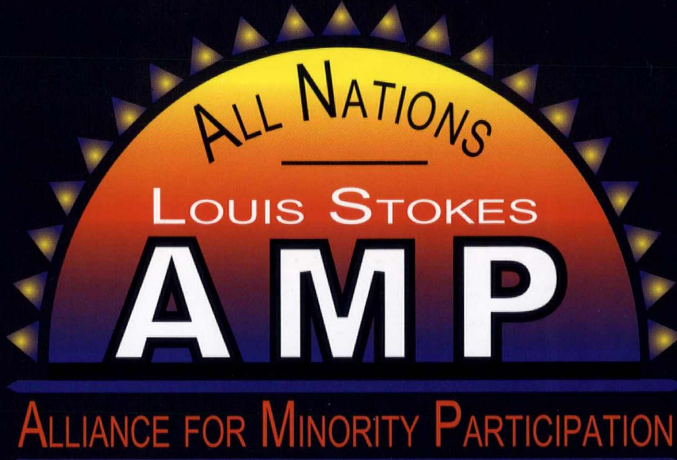
assists increasing numbers of MAMP students who are enrolling in graduate school. Statewide retreats for rising juniors and seniors focus on preparation and expectations for graduate study.





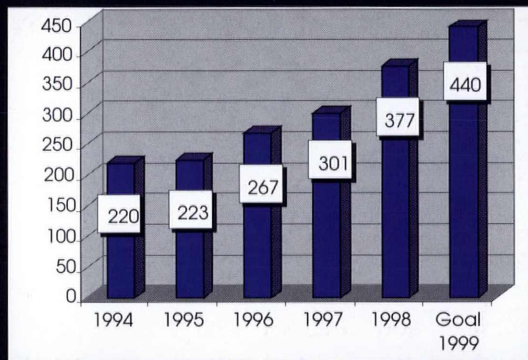
# All Nations LSAMP Program Highlights

*Articulation, Transfer of Tribal College Students to 4-year Schools, Undergraduate Research, Bridge Programs, and Retention work are the keys to All Nations LSAMP's success.*

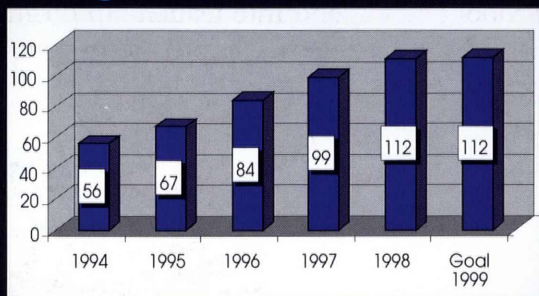


*All Nations LSAMP student Jesse Janssen working the career fair at the 1998 National ARC Conference*

## *All Minority SMET Bachelor's Degree Production & Goal*



## *American Indian SMET Bachelor's Degree Production & Goal*



*All Nations LSAMP students and staff at the 1998 National ARC Conference*

### **Tribal College Partners**

- |  |                                     |
|--|-------------------------------------|
| Bay Mills Community College                  | Leech Lake Community College        |
| Blackfeet Community College                  | Little Big Horn College             |
| Cankdeska Cikana Community College           | Nebraska Indian College             |
| Cheyenne River Community College             | Northwest Indian College            |
| College of the Menominee Nation              | Oglala Lakota College               |
| Dull Knife Memorial College                  | Salish Kootenai College             |
| Fond du Lac Community College                | Sinte Gleska University             |
| Fort Belknap College                         | Sisseton Wahpeton Community College |
| Fort Berthold Community College              | Sitting Bull College                |
| Fort Peck Community College                  | Stone Child College                 |
| Haskell Indian Nations University            | Turtle Mountain Community College   |
| Lac Courte Oreilles Ojibwa Community College | United Tribes Technical College     |

### **University Partners**

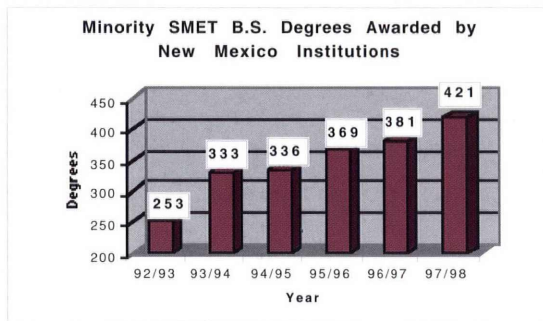
- |   |                                   |
|---|-----------------------------------|
| Black Hills State University              | University of Kansas              |
| Central Michigan University               | University of Minnesota - Duluth  |
| Lake Superior State University            | University of Montana             |
| Montana State University - Bozeman        | University of North Dakota        |
| North Dakota State University             | University of South Dakota        |
| Rocky Mountain College                    | University of Washington          |
| South Dakota School of Mines & Technology | University of Wisconsin - Madison |
| South Dakota State University             | Washington State University       |
|   | Western Washington University     |



# New Mexico Alliance for Minority Participation

**T**HE NEW MEXICO ALLIANCE FOR MINORITY PARTICIPATION, (New Mexico AMP) begins Phase II with a renewed commitment to its goal to increase the quantity and quality of minority students who complete their B.S. degrees.

During Phase I, the number of SMET degrees awarded to minorities has increased by 66%. Just as significant is the increase in the percent of minority students receiving SMET B.S. degrees—rising from 23.7% in 1992/93 to 33.9% in 1997/98. Phase II will build on that success and strengthen the



partnership between and among the two- and four-year institutions that make up the New Mexico AMP.

New Mexico AMP's programs and activities are designed to provide a comprehensive and complete array of services and opportunities at each stage of a student's academic career, to assist and facilitate their development as undergraduates, and to encourage them toward graduate studies.

A Coordinator at each partner institution creates a network of direct student contacts for AMP students. As a partnership of 21 two-year and six four-year institutions, New Mexico AMP represents all of the state's public two-year postsecondary institutions, state-supported four-year universities and two federally-funded institutions serving American Indian students.

Collaboratives and linkages with other professional and educational programs and organizations provide opportunities for students to establish networks, learn about the role and work of professionals in their disci-

plines, improve communication skills, and benefit from extensive professional and academic mentoring.

Students do hands-on laboratory research through the Undergraduate Research Assistantship Program, and present that research at state and national professional conferences.

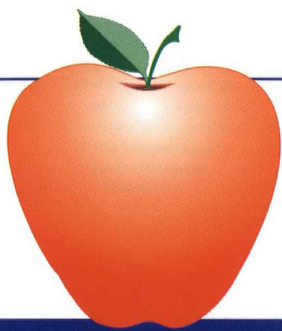
New Mexico AMP is aligned with other National Science Foundation (NSF) programs in New Mexico which share this common vision: The Collaborative for Excellence in Teacher Preparation (CETP), and the Regional Alliance for Science, Engineering and Mathematics (RASEM) for students with disabilities (both housed at New Mexico State University). New Mexico AMP has also collaborated with the Utah, Colorado, Arizona, New Mexico Rural Systemic Initiative (UCANRSI) through representation on the UCANRSI Steering Committee to ensure awareness of mutual goals and to promote opportunities for New Mexico youth.

Other academic and statewide agencies, in collaboration and cooperation with New Mexico AMP, also provide internships, scholarships, mentoring and role models to help guide qualified students into graduate school and beyond into leadership positions in industry, academia, and entrepreneurial pursuits.



For more information contact:  
 Dr. Ricardo B. Jacquez, Director  
 New Mexico Alliance for Minority Participation  
 MSC-3AMP  
 New Mexico State University  
 P.O. Box 30001  
 Las Cruces, NM 88003-8001  
 Phone: 505/646-1847 Fax: 505/646-2960  
 e-mail: amp@nmsu.edu  
 Home Page: <http://www.nmsu.edu/~nmamp/>





# NEW YORK CITY ALLIANCE



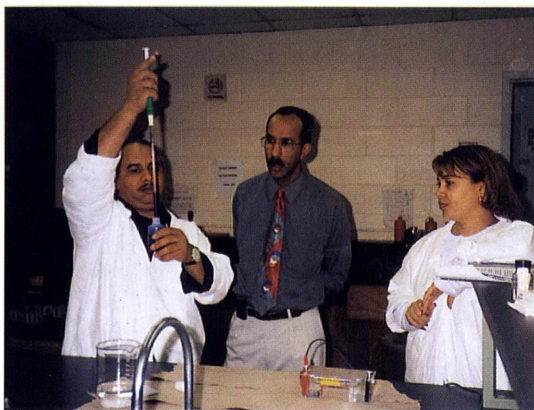
ALLIANCE FOR MINORITY PARTICIPATION IN SCIENCE, ENGINEERING AND MATHEMATICS

**T**HE NEW YORK CITY ALLIANCE has created a powerful model of SMET educational reform at CUNY, one of the nation's largest urban universities. To promote the recruitment, performance, and retention of minority students in SMET disciplines and dramatically increase the number of SMET bachelor's degrees awarded by the university, NYC AMP has:



*"During 1997-1998, the New York City Alliance continued to implement its vision of a New York City SMET pipeline which can be leveraged to increase the number of SMET bachelor's degrees awarded at CUNY. New York City has a million-student, predominantly minority school system, and CUNY has a minority student population of 99,000. NYC AMP is working with the Urban Systemic Initiative to reform SMET education at the pre-college level and to infuse New York City's schools with a cadre of CUNY-educated SMET teachers whose training is research-based. At CUNY's sixteen undergraduate campuses, NYC AMP's restructuring of SMET instruction, now in its seventh-year, has quantifiably increased retention and performance in SMET disciplines by establishing a new educational paradigm based on collaborative learning, peer tutoring, mentoring, and, above all, undergraduate research. NYC AMP has significantly increased the flow of SMET students from community to senior colleges. The addition of the CUNY Graduate School and University Center to the NYC AMP pipeline provides students with the intellectual and financial support they need to pursue the Ph.D."*

- established **CAMPUS LEARNING CENTERS** administered by activity coordinators, who are CUNY SMET graduate students, and staffed by peer tutors;
- brought about **COURSE RESTRUCTURING** which introduces collaborative learning workshops into SMET teaching and places heavy emphasis on faculty and peer **MENTORING**;
- created an **UNDERGRADUATE RESEARCH PROGRAM** which engages community and senior college students in faculty research. The program has been expanded to include precollege and graduate students;
- promoted **COOPERATION BETWEEN COMMUNITY AND SENIOR COLLEGES** by instigating articulation agreements and by establishing **SEMRAP** (Science, Engineering, and Mathematics Research Articulation Program) which creates research partnerships between community and senior college faculty;
- developed the **AMP TEACHER PREPARATION INITIATIVE**;



• formed **PARTNERSHIPS WITH GOVERNMENT AGENCIES AND OTHER FUNDED PROGRAMS** such as NASA's Goddard Institute for Space Studies, Brookhaven National Laboratory, and the Urban Systemic Initiative;

• laid the groundwork for the **NYC AMP VIRTUAL INSTITUTE** which will become a network-based resource for SMET education in the urban environment and a distance learning tool for CUNY's commuter population.

#### TWO -YEAR COLLEGES

BOROUGH OF MANHATTAN•BRONX•HOSTOS•KINGSBOROUGH•LAGUARDIA•QUEENSBOROUGH

#### FOUR -YEAR COLLEGES

BARUCH•BROOKLYN•CITY•COLLEGE OF STATEN ISLAND•HUNTER•LEHMAN•MEDGAR EVERSO  
NEW YORK CITY TECHNICAL•QUEENS•YORK

THE CUNY GRADUATE SCHOOL AND UNIVERSITY CENTER

*The pieces are in place for us to make a quantum leap in the number of students who graduate from CUNY in SMET disciplines. We challenge ourselves to award 2000 minority SMET degrees in 2002, the year NYC AMP completes its second phase of NSF funding."*

*Dr. Neville A. Parker, NYC AMP  
Principal Investigator*



# NC-LSAMP

NORTH CAROLINA LOUIS STOKES  
ALLIANCE FOR MINORITY PARTICIPATION

*"Building a stronger partnership for  
success"*

NC-LSAMP is a regional Alliance comprised of eight institutions within the University of North Carolina system. Since the inception of the Alliance in 1991, SMET enrollment, retention, and B.S. degree productivity have been dramatically impacted by targeted programs, activities, and services, which include:

- Supplemental Instruction and Tutorial Services in "gatekeeper" courses
- General Engineering Freshmen Core Program
- Computer Application Assistance
- Peer Study Groups
- Summer Research Program
- Faculty Mentoring Program
- Industry Internship Program
- Summer Bridge Program
- National Research Laboratory Internships
- Scholarship Program



## *Alliances of Learning and Vision for Underrepresented Americans (ALVA) Bridge Program*

A new component of the Alliance in 1998, the ALVA Bridge Program, provided a demanding eight-week summer experience for entering freshmen in engineering. Seven incoming A&T freshmen (5 African-American and 2 Native American) completed this dynamic program. Students participated in laboratory-based research in science or engineering at Jet Propulsion Laboratory (JPL) in Pasadena, California. In addition to working in labs daily for six hours, students attended a two-hour calculus problem-solving workshop each day, and received pay for eight hours from JPL. Housing for students was located at the California Institute of Technology in Pasadena, California, and support services were available from mentors, work directors, and counselors. The 1999 summer program will involve 17 students: 4 Native American and 4 African-American (*JPL, Pasadena, California*); 4 Native American (*IBM, Research Triangle Park, Raleigh, North Carolina*); 3 African-American (*Sandia National Laboratory, Albuquerque, New Mexico*); and 2 Native American (*Porter Scientific, Pembroke, North Carolina, a Native American-owned company*). During the first semester of study in 1998, the average GPA earned by ALVA students was 3.8 on a 4.0 scale.

Fayetteville State University, North Carolina Central University, North Carolina State University,  
University of North Carolina-Chapel Hill, University of North Carolina-Charlotte,  
University of North Carolina-Pembroke, Winston-Salem State University,  
North Carolina A&T State University (*lead campus*)

For additional information contact: E-mail: [vivian@ncat.edu](mailto:vivian@ncat.edu) ◦ Phone: (336)334-7447 ◦ Fax (336)334-7540  
NC-LSAMP Program, College of Engineering, 640 McNair Hall, North Carolina A&T State University, Greensboro, NC 27411





# Oklahoma LOUIS STOKES AMP

Oklahoma Louis Stokes Alliance for Minority Participation in  
Science ↔ Mathematics ↔ Engineering ↔ Technology

◦ Partner Institutions and Campus Directors:

**University of Oklahoma**, Mr. Wayne Steen;  
**Northeastern State University**, Dr. Myron Cherry;  
**Langston University**, Dr. Phillip Schapiro; **East Central University**, Dr. Carl Rutledge; **Southeastern Oklahoma State University**, Dr. James Lester;  
**University of Central Oklahoma**, Dr. S.N. Rao;  
**Northwestern Oklahoma State University**, Mr. Billy Steward; **Oklahoma State University**, Ms. Valerie Shangreaux.

◦ Affiliates: Bacone College, Cameron University, Connors State College, Murray State College, Northeastern Oklahoma A&M College, Northern Oklahoma College, Oklahoma Baptist University, Oklahoma Christian University of Science and Arts, Oklahoma City Community College, OSU - Okmulgee, Rogers State College, Rose State College, Seminole State College, Southwestern Oklahoma State University, Southern Nazarene University, Oklahoma Panhandle State University, Tulsa Community College, University of Science and Arts of Oklahoma, University of Tulsa



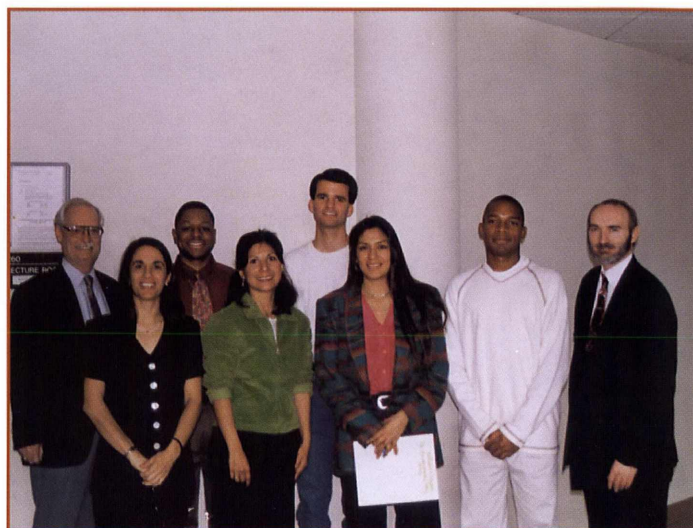
LOCATION OF OK-LSAMP INSTITUTIONS

The inter-institutional collaboration between the colleges and universities comprising OK-LSAMP offers programs and interactive techniques that have increased substantially the quantity and quality of students from currently underserved populations in Oklahoma.

● **Summer Bridge Programs, Semester Scholars Programs, Research Internship Programs.** Key features: recruitment, transition to college SMET culture, personal development, academic portfolio development, retention, SMET network building, academic advancement, stipends, research, scholarly presentations, research conferences, graduate school preparation.

## INNOVATION

OK-LSAMP uses a tiered participation system that directly channels underserved students towards greater preparedness and competitiveness for graduate study. Upper-division Scholars engage in a Mentoring Component (MC) where Research within an SMET department and Graduate Portfolio Development sessions are offered by Graduate School staff. Graduate Portfolio sessions entail completing applications to graduate school, self-assessment, practicing interviewing skills and more. Further, OK-LSAMP continues to use an intensive academic support system for freshmen and sophomores through weekly meetings in units based on related academic majors (Cadres). Through the Cadre, retention is enhanced and lower-division participants identify early their role in a community of SMET Scholars. Well-prepared and highly motivated undergraduate students effectively generate support for increased faculty involvement in undergraduate research and mentoring activities.



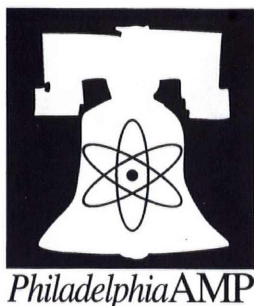
Graduate School staff provides portfolio development classes to OK-LSAMP Scholars

**PROJECT DIRECTOR** Earl D. Mitchell, Ph.D., [Idsilva@biochem.okstate.edu](mailto:Idsilva@biochem.okstate.edu)  
**PROGRAM MANAGER** Judy M. Batson, Ph.D., [jbatson@biochem.okstate.edu](mailto:jbatson@biochem.okstate.edu)

246 Noble Research Center • Stillwater, Oklahoma • 74078-3035  
Phone (405) 744-7820 • FAX (405) 744-7799

<http://www.biochem.okstate.edu/OK-LSAMP/>





## Greater Philadelphia Region Alliance for Minority Participation

*Cheyney University • Community College of Philadelphia  
Delaware State University • Drexel University • Lincoln  
New Jersey Institute of Technology • Temple University  
University of Delaware • University of Pennsylvania*

The Greater Philadelphia Region Alliance for Minority Participation, now in its fifth year of operation, represents a very diverse partnership of public and private, 2- and 4-year, research and non-research, Historically Black Colleges and Universities (HBCUs) and majority institutions. Through synergistic collaboration, the Alliance utilizes its operational infrastructure to expand available options to enrich programs at partner institutions and beyond. Throughout the Alliance students are able to participate in a wide variety of programs, such as summer pre-freshman bridge and academic year support, career awareness and preparation for graduate school, internships with industry sponsors, learning communities, undergraduate research projects and symposia, and programs to facilitate the transition from community college to four-year institutions.

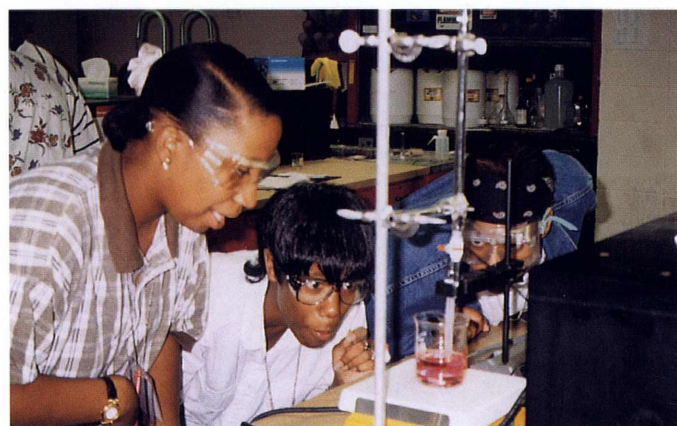


In Years 1 and 2, a great deal of emphasis was placed on the recruitment of freshman. In Year 3, more emphasis was placed on the retention of all students, with particular attention to transfer and other upper level students, and a detailed retention study was begun. In Year 4, the emphasis on articulation and retention was characterized by the development of a plan that addressed the elimination of graduation

barriers. In addition, the Alliance continued to complete the retention study begun in Year 3. Preliminary analysis of our Alliance's effectiveness has resulted in the following:

- (1) The identification and serving of more students through AMP sanctioned support programs have resulted in Philadelphia AMP reaching 82% (457 degrees) of its stated 558 minority SEM B.S. degree production goal.
- (2) Based on our Fall 1994 freshman cohort study, AMP minority SEM students are being retained at a higher level (80%) than Non-AMP minority SEM students (48%), as well as Non-Minority SEM students (78%) over a four year period.
- (3) The use of intra- and inter-institutional support services for community college students has resulted in approximately one hundred (100) students receiving Associate degrees in SEM areas and approximately seventy (70) students successfully transferring to four-year AMP institutions over a four-year period.

In preparation for an AMP Phase II, the Alliance continues to fine-tune its operational infrastructure to increase minority progression and retention rates in SEM, and to move at least 10% of AMP graduates into graduate SEM education.





## IMPROVING THE EFFECTIVENESS AND EFFICIENCY OF SMET PROGRAMS BY TRANSFORMING THE TEACHING/LEARNING CULTURE OF THE INSTITUTION

Peer Mentor Students



With 14 higher education institutions in this alliance, and 22,214 undergraduate students enrolled in SMET programs, PR-LSAMP constitutes an integrated islandwide systemic strategy to increase the participation of Puerto Rican students in the SMET educational pipeline. With revision of the SMET curriculum as its core, PR-LSAMP develops activities to assist and motivate students, to enhance teacher preparation in areas of critical need, and to implement institutional metrics to assess the effectiveness and efficiency of the SMET programs at each institution.

PR-LSAMP aims to permanently transform participating institutions through a systemic approach that addresses all key components of the SMET enterprise, as it focuses on every level and every function of the SMET undergraduate level: teaching, learning, and administration. To achieve effective institutionalization, PR-LSAMP provides professional development and facilitates the formation of leadership, so the faculty is empowered to pioneer educational reform. On the other hand, student strategies developed through PR-LSAMP, although open to all students, are designed to specifically target the needs of the three-tier student body. Altogether, there have been approximately 46,000 student interventions between 1991 and 1997.

PROJECT DIRECTOR  
Manuel Gómez, PhD

CO-PRINCIPAL INVESTIGATOR  
Ana Piñero, PhD

PROJECT COORDINATOR  
Denny Fernández, PhD

### PR - APPROACH TO KEEP ALL STUDENTS IN THE SMET PIPELINE

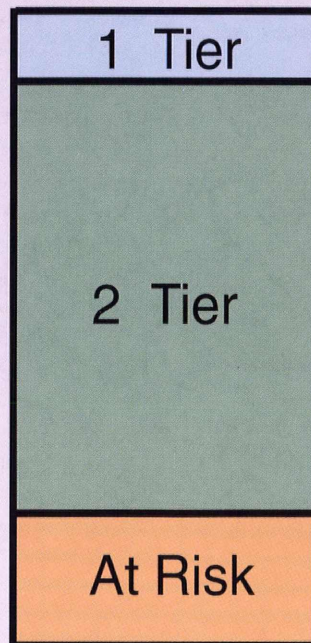
#### CHARACTERISTICS

- High Motivation
- Excellent High School Preparation
- Self Learners
- Not Affected by Teachers' Attitudes
- High Self-Esteem
- Well-Defined Career Goals

- Good Motivation
- Good High School Preparation
- Not Well Developed Study Habits
- Affected By Teachers' Attitudes
- Average Self-Esteem
- Not Well Defined Career Goals

- Poor Motivation
- Average High School Preparation
- Poor Study Habits
- Highly Affected By Teachers' Attitudes
- Poor Self-Esteem
- Poor Career Goals

#### STUDENT SPECTRUM



#### AMP - ACTIVITIES

- Revision of the SMET Curriculum
- Undergraduate Research Activities
- Puerto Rico Interdisciplinary Scientific Meeting
- Participation in National Scientific Meetings
- Faculty and Industry Peer Mentoring
- Undergraduate to Graduate Bridging Activities
- Cooperative Learning
- SMET Teaching Careers
- Use of Technology in the Classroom
- Self-Paced Learning
- Learning / Study skills within the context of a course (TaDDEI)



# AMP South Carolina Alliance For Minority Participation

The South Carolina Alliance for Minority Participation (SCAMP) Program introduces students to science, engineering, and mathematics (SEM). SCAMP prepares students for the rewards and the demands they can expect in these fields. SCAMP institutions include two research universities, four historically black institutions and one community college: Benedict College, Claflin College, Clemson University, College of Charleston, Midlands Technical College, South Carolina State University, University of South Carolina and Voorhees College. The diversity of the participating institutions allows students to take advantage of SCAMP programming in the learning environment that best suits their needs.



The State of South Carolina has recognized and supported AMP as a key component of reform within the state's educational infrastructure. In academic years 1994-present, the South Carolina State Legislature in an unprecedented show of support appropriated a total of 2.4 million for support of AMP activities. These matching funds have expanded the impact of AMP by enabling the Alliance to increase student support. In addition to the institutional commitments, corporate partners have provided a solid foundation for the expansion and institutionalization of Phase II activities.

## SCAMP ACTIVITIES

### AMP SCHOLARS - SCAMP

provides financial support for students who have proven to be academically successful. These scholarships are awarded per semester and are renewed based on the students' grade point average.



**MENTORING & TUTORING PROGRAM** – Students are provided academic, moral and emotional support through: Proactive Mentoring, Supplemental Instruction, and One-on-One Tutoring.

**DROP-IN CENTERS** – Provides the student a "Home Base." A place to foster a sense of mutual support and community. The Center is equipped with computers, laser printers and scanners. All of the tutorial sessions for engineering, science and mathematics occur at the Drop-In Center.

**DIRECTED RESEARCH and INTERNSHIPS**– SCAMP students conduct cutting edge research under the supervision of a faculty advisor in their degree field. Collaboration among Alliance partners permits students to conduct research with faculty members at any institution. Students also participate in external research opportunities offered by academic, governmental and private sector laboratories.

### SUMMER BRIDGE PROGRAM

–Summer Programs are held at six institutions for entering freshman planning to major in SMET. Program participants attend daily workshops, learn problem solving skills, computer skills and writing enrichment skills. Other activities include guest speakers' seminars, field trips to laboratories and industries and cultural enrichment.



**FACULTY WORKSHOPS**–Through Curriculum Reform efforts, workshops are held throughout the year to discuss and evaluate reform in "gate-keeper" courses such as Calculus, Physics and Chemistry.

### SEMINARS and DISTINGUISHED LECTURE SERIES

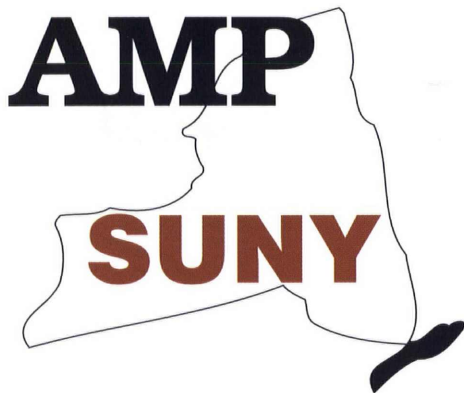
–SCAMP has expanded its undergraduate seminars and invited guest speakers. This allows students the opportunities to discuss the advantages of science, mathematics and engineering education programs and the advantages of teaching and industrial opportunities.

**JUNIOR BRIDGE PROGRAM**–This program is implemented by SCAMP's two-year Junior College. The program determines the needs of Midland Technical College transfer students to ensure a smooth transition to a four-year degree in a SMET field. By providing financial incentives and mentor support to junior college students through scholarships, stipends and research-based programs. SCAMP has the potential to encourage and attract transfer students to an Alliance four-year institution.

**PROJECT DIRECTOR**  
Dr. Craig A. Rogers  
rogers@sc.edu

**PROJECT MANAGER**  
Dr. Angela W. Williams  
awilliam@sc.edu





**STATE UNIVERSITY OF NEW YORK  
ALLIANCE FOR MINORITY PARTICIPATION**  
Access and Excellence in Science, Mathematics,  
Engineering and Technology

David Ferguson, Project Director 516-632-9987 [dferguson@notes.cc.sunysb.edu](mailto:dferguson@notes.cc.sunysb.edu)  
Lucy Gluck, System Coordinator 516-632-9988 [lgluck@notes.cc.sunysb.edu](mailto:lgluck@notes.cc.sunysb.edu)  
Web Site: <http://www.ceas.sunysb.edu/DTS/AMP>

**PARTICIPATING INSTITUTIONS:**

**Binghamton Region:**

University at Binghamton  
Broome Community College  
Tompkins Cortland Community College

**Buffalo Region:**

University at Buffalo  
Buffalo State College

**Hudson Valley Region:**

University at Albany  
Ulster County Community College  
State College at New Paltz  
Orange County Community College  
Dutchess Community College  
Schenectady Community College

**Long Island Region:**

SUNY at Farmingdale  
Nassau Community College  
University at Stony Brook  
Suffolk Community College  
State College at Old Westbury

**SUNY AMP BUILDS LINKAGES**

**NSF PROGRAMS:**

RAIRE (Research Award for the Integration of Research and Education)  
LICIL (Long Island Consortium for Interconnected Learning in Quantitative Disciplines)  
WISE (Women in Science and Engineering)  
MRSEC (Materials Research Science and Engineering Center)  
MSTe (Math, Science and Technology in the Elementary Schools)

**OTHER FEDERAL GRANTS:**

BioPrep, sponsored by the National Institute of Health  
MARC (Minority Access to Research Careers), sponsored by the National Institute of Health

**NEW YORK STATE PROGRAMS:**

Graduate Minority Fellowships  
CSTEP (Collegiate Science and Technology Entry Program)  
STEP (Science and Technology Entry Program)

**INDUSTRY:**

BP Amoco's EngiPrep Program  
Computer Associates' SUNY AMP Scholarship Program  
Brookhaven National Laboratory's Research Placements  
Lucent Technology Internships

**SUNY AMP ACCOMPLISHMENTS**

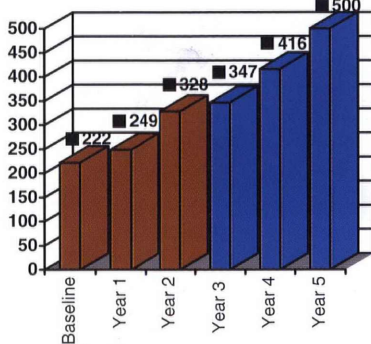
- A substantial increase of 31% in degree production, with an overall increase of 47%
- An increase in minority SMET enrollment of 6.5%, with overall increases of up to 25% in enrollment on campuses
- Increased cost share which is now 353% of funding amount
- Substantially higher retention rates for SUNY AMP students than for other students at their institutions or for national retention averages
- Development of new and increased partnerships with BP Amoco, Computer Associates and Brookhaven National Laboratory
- Winner of an NSF AMP supplemental grant to increase graduate study and the number of students entering the professoriate
- Development of "The Grow Your Own Project" and "The Career Choice Project"



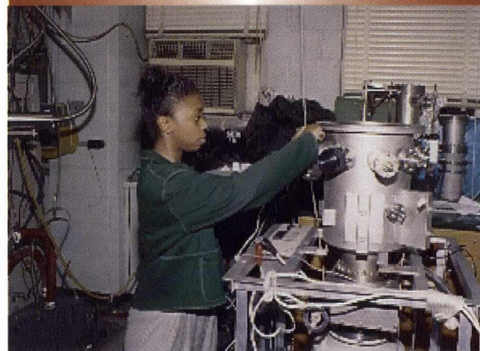
**PROGRAM COMPONENTS**

- Retention
- Tutoring
- Mentoring
- Faculty advisement
- Study groups and workshops
- Success in gatekeeper courses
- Business and industry involvement
- Curriculum and pedagogical reform
- Institutionalization of AMP program elements
- Increase in degree production in SMET majors
- Community and national organization involvement
- Active recruitment of high school students and community college transfer students
- Enrollment in Science, Math, Engineering, Technology (SMET) majors
- Bridge Programs: high school to college, two-year to four-year research and internship placements

**Baccalaureate Degree Production**



Baseline: Number of minority students receiving SEM bachelor's degrees.  
Degree Data: Year 1, Year 2  
Projection Data: Year 3, Year 4, Year 5





Visit our Web Site [www.amp.tamu.edu](http://www.amp.tamu.edu)



**TAMUS Project Principals**

Dr. Karan Watson  
Principal Investigator &  
Project Director

Dr. Juan Lira  
Texas A&M International  
Co-PI

Dr. Diana Martinez  
Texas A&M Corpus Christi  
Co-PI

Dr. James Morgan  
Prairie View A&M  
Co-PI

**TAMUS Central Administration**  
Dr. Rita Caso  
Associate Project Director

Catherine Carr  
Administrative Assistant

Vanessa Rodriguez  
Program Coordinator

**Coordinators**

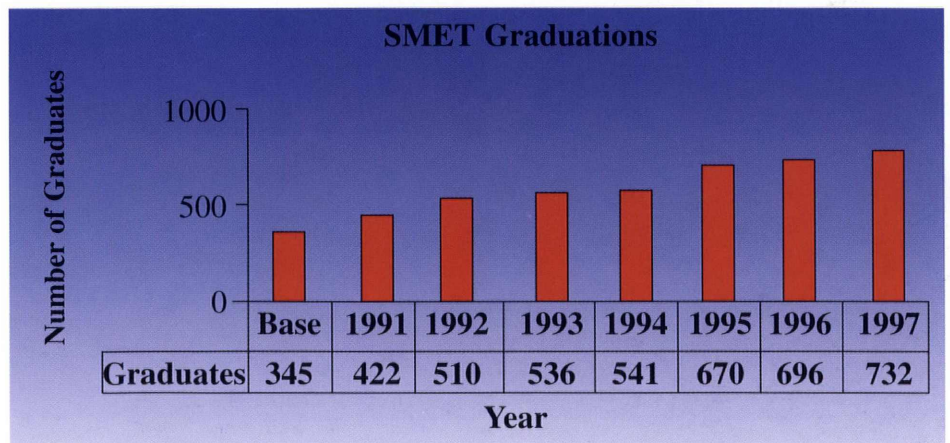
College Station	Jeanne Rierson
Prairie View	James Morgan
	Dena Noel
Corpus Christi	Leticia Garza
	Diana Martinez
International	Julio Madrigal
Blinn	Robert Wright
	Lola Redmond
Delmar	Ed Cooke
El Centro	Rosalinda Minnis
Houston	Beverly Perry
Laredo	Alberto Cardenas
Palo Alto	Tony Castillo
	Charly Garcia
Richland	Tony Summers
San Antonio	Jerry O' Connor

The Texas A&M System Alliance for Minority Participation (TAMU System AMP, a.k.a. Texas AMP) is a multidisciplinary program aimed at significantly increasing enrollment, retention and graduation of minorities who earn a Bachelors degree in science, engineering, math and technology (SMET).



*Above: Scholarship Banquet at Texas A&M International*

Over 7 years of AMP, there was an increase of 112% in Minority SMET Baccalaureate graduates from baseline year (1990-91) through our 7th year (1997-98).





# UT SYSTEM LSAMP

## A Catalyst for Change



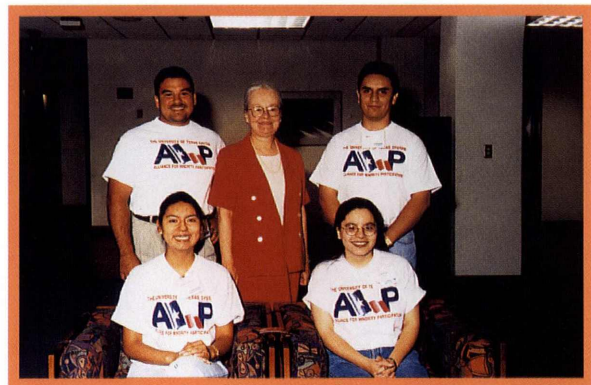
The University of Texas System Louis Stokes Alliance for Minority Participation, LSAMP, brings together the nine academic components of The University of Texas System and eleven regional community college districts in an effort to increase the number of underrepresented students enrolling in and graduating from baccalaureate programs in science, math, engineering and technology (SMET). At the same time, the Alliance commits itself to increasing the enrollment of underrepresented students in SMET graduate programs at UT System institutions.



*Julia Rives explains the award winning research she did through the UT Arlington LSAMP Student Research Program to Dr. Pedro Reyes, Associate Dean of the Graduate School at UT Austin and UT System LSAMP Co-PI.*

- UT Arlington
- Tarrant County College
- UT Austin
- Austin Community College
- UT Brownsville
- Texas Southmost College
- UT Dallas
- Collin County Community College District
- Dallas County Community College District
- UT El Paso
- El Paso Community College
- UT Pan American
- South Texas Community College
- UT Permian Basin
- Howard College
- Midland College
- Odessa College
- UT San Antonio
- Alamo Community College District
- UT Tyler

*Dr. Natalicio with Charlie Torres, Mauricio Camacho, Julieta Ornelas and Julia Rives, UT System LSAMP students who won awards at the LSAMP 1998 National Student Research Conference.*



*Dr. Diana Natalicio presents Dr. James Duncan a plaque of appreciation for his five years of dedicated and outstanding service as the Chair of The UT System LSAMP Governing Board.*







# Washington-Baltimore-Hampton Roads Alliance

The Washington-Baltimore-Hampton Roads Alliance for Minority Participation (WBHR-AMP) is committed to the goal set by the National Science Foundation, to significantly increase the number of underrepresented minorities receiving B.S. degrees in the sciences, engineering, and mathematics (SEM). To achieve this goal, several enrichment programs and support systems have been designed to enhance the retention of students and increase the graduation rate.

## Programs

- Research Traineeships
- Summer Institutes
- Math Programs
- Curriculum Revision
- Tutorials

## AMP INSTITUTIONS

Howard University

Morgan State University

Hampton University

University of the District of Columbia



Students in UDC 1998 Summer Mathematics and Engineering Institute.



Howard University student giving poster presentation at National AMP Conference.



Morgan State University student making research presentation.





## Western Alliance to Expand Student Opportunities

Our Louis Stokes AMP program, The Western Alliance to Expand Student Opportunities (WAESO), is continuously increasing the quantity and quality of minority students receiving degrees in math, science and engineering. During 1998, we increased our student participation by 34% from last year by serving 617 students throughout our region, which includes institutions in Arizona, Colorado, New Mexico, western Texas (El Paso Community College), Nevada, and Utah. The following are the activities in which students participated:

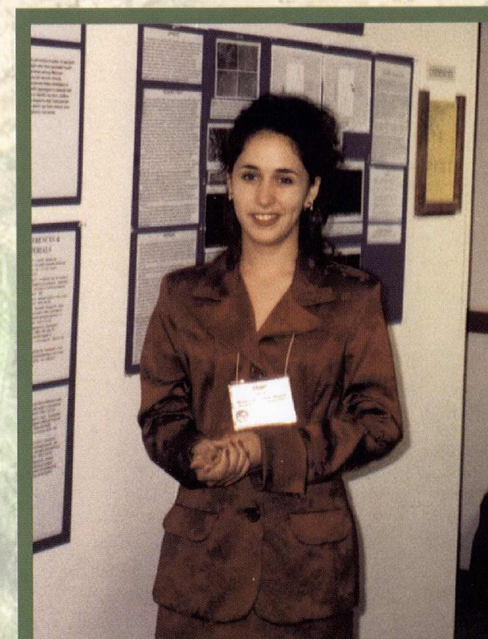
- peer study groups (local and over the Internet)
- summer bridge programs
- faculty-directed undergraduate research projects
- graduate preparation, mentorships, and research conference participation.

This past summer, and with support from the Western Alliance to Expand Student Opportunities, the Arizona State University-East campus conducted a five-week program entitled, "AISTEC Summer Bridge Program." The program provided a five-week bridge program for American Indian students looking to enter post-secondary education. The goal of the summer bridge program focused on academic preparation and the development of college-life skills emphasizing in mathematics, science, engineering and technology. In addition to regular course work, students actively conducted research under the guidance of the ASU Center for Environmental Research.

combining this with education and familiar variables. With this information, a profile of the Latina women can be established in order to tailor a specific intervention to address smoking problems and treatment for Latino women.



Students who participated in the 1998 "AISTEC Summer Bridge Program" at Arizona State University-East.



Shari A. Garcia presenting her poster at the Sixth Annual Alliance for Minority Participation Conference, July 1998.

Students who engage in faculty-directed research activities have the opportunity to present their research findings at regional, national and international conferences. This past year and under the supervision of Dr. Hector Balcazar, professor at Arizona State University, Sheri A. Garcia had the opportunity to showcase her research poster entitled, "Use of Segmentation Approaches for Designing Culturally-Appropriate Health Interventions in Latinas" at The Sixth Annual Alliance for Minority Reserach Conference held in Pablo, Montana this past summer. Her research poster described a segmentation methodology that can be used to address public health problems such as smoking in Latina women. Her segmentation approach consists of obtaining baseline information relative a woman's acculturation level and



NSF sponsored undergraduate component of the Western Alliance to Expand Student Opportunities



# COLLEGE FUND - XAVIER AMP

Committed to doubling the number of undergraduate degrees awarded in science, engineering and mathematics to 606 in five years by recruiting and enrolling a fixed number of freshmen students each year, and improving curriculum and support services as they matriculate through the senior year.



AMP students gather in Xavier library.

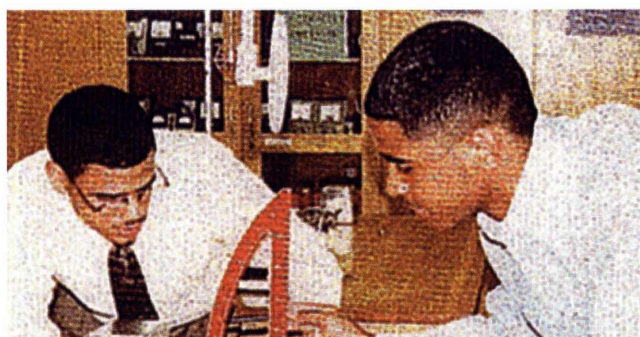


AMP students at Xavier

Fisk University  
Huston-Tillotson College  
Jarvis Christian College  
Knoxville College  
Philander Smith College  
Shaw University  
St. Augustine's College  
St. Paul's College  
Virginia Union University  
Wiley College  
Xavier University



AMP PI. visits computer lab at Huston-Tillotson



Grant Tregre and Jeffery Jones at work on a project in the physics lab at Xavier.

## 1998 ACCOMPLISHMENTS

- Realization of 370 SEM degrees awarded by the Alliance schools as of June 1998. This figure is up 22% from the baseline figure of 303 degrees awarded in academic year 1994 (base year).
- Eight schools (Fisk, Jarvis Christian, Philander Smith, Shaw, St. Augustine's, St. Paul's, Virginia Union, Xavier) implemented bridge programs in which 77 incoming AMP SEM freshmen participated.
- Eight schools (Fisk, Huston-Tillotson, Jarvis Christian, Philander Smith, Shaw, St. Augustine's, Virginia Union, Xavier) had approximately 50 of their AMP rising sophomores engaged in research programs in the summer of 1998.
- A total of 85 faculty members participated in 54 individual program activities in 1998 including recruiting, curriculum revisions, research mentoring, tutorial sessions, field trips, and other support services.



# The National Science Foundation Louis Stokes Alliances for Minority Participation (LSAMP) DIRECTORY

## National Science Foundation

4201 Wilson Boulevard  
Arlington, VA 22230  
<http://www.nsf.gov/>

Dr. Rita R. Colwell  
Director  
(703) 306-1000 • (703) 306-1869 (fax)

Dr. Luther S. Williams  
Assistant Director  
Directorate for Education and Human Resources  
(703) 306-1606 • (703) 306-0399 (fax)  
[lwilliam@nsf.gov](mailto:lwilliam@nsf.gov)

Dr. Roosevelt Calbert  
Division Director  
Human Resource Development  
Directorate for Education and Human Resources  
(703) 306-1640 • (703) 306-0423 (fax)  
[rcalbert@nsf.gov](mailto:rcalbert@nsf.gov)

## PROGRAM DIRECTORS

Dr. A. James Hicks  
(703) 306-1636 • (703) 306-0423 (fax)  
[ahicks@nsf.gov](mailto:ahicks@nsf.gov)

Dr. Victor Santiago  
(703) 306-1632 • (703) 306-0423 (fax)  
[vsantiago@nsf.gov](mailto:vsantiago@nsf.gov)

AMP Program Assistant  
Jamie Scipio  
(703) 306-1637  
[jscipio@nsf.gov](mailto:jscipio@nsf.gov)

## Alabama AMP (1991)

Dr. Louis Dale  
Associate Provost for  
Minority and Special Programs  
The University of Alabama at Birmingham  
401 Campbell Hall  
1300 University Boulevard  
Birmingham, AL 35294-1170  
(205) 934-8762 • (205) 934-1650 (fax)  
[ldale@uab.edu](mailto:ldale@uab.edu)  
<http://www.lhl.uab.edu/aamp/>

## Program Manager

Dr. M. Carolyn Braswell  
(205) 934-8715  
[cbraswel@uab.edu](mailto:cbraswel@uab.edu)

## California AMP (1991)

Dr. Nicolaos G. Alexopoulos  
School of Engineering, 305 REC  
University of California, Irvine  
Irvine, CA 92697-2700

## California AMP (Continued)

(949) 824-6002/4838 • (949) 824-7966 (fax)  
[alfios@uci.edu](mailto:alfios@uci.edu)  
<http://www.camp.uci.edu/~camp/>

## Associate/Assistant

Marjorie DeMartino  
[dmartino@uci.edu](mailto:dmartino@uci.edu)

## California State AMP (1993)

Dr. Alfonso Ratcliffe  
AMP Administrative Headquarters  
College of Engineering & Computer Science  
California State University, Northridge  
18111 Nordhoff Street  
Northridge, CA 91330-8295  
(818) 677-4694 • (818) 677-5982 (fax)  
[rick.ratcliffe@csun.edu](mailto:rick.ratcliffe@csun.edu)

## Executive Director

Tobi Roffman  
[tobi.roffman@csun.edu](mailto:tobi.roffman@csun.edu)

## Chicago AMP (1993)

Dr. Marian Wilson-Comer  
Executive Director  
Chicago State University  
9501 South King Drive  
Williams Science Center, 101A  
Chicago, IL 60628-1598  
(773) 995-3296 • (773) 995-2966 (fax)  
<http://www.IIT.edu/~IITnsf/Chicago-AMP.html>  
[bacomere@csu.edu](mailto:bacomere@csu.edu)

## The Georgia-College Fund AMP (1997)

Dr. Thomas W. Cole, Jr.  
President  
Clark Atlanta University  
223 James P. Brawley Drive, SW  
Atlanta, GA 30314  
(404) 880-8500 • (404) 880-8995 (fax)  
[tcoble@cau.edu](mailto:tcoble@cau.edu)  
<http://www.cau.edu>

## Project Manager

Dr. Melvin R. Webb  
(404) 880-6868 • (404) 880-6843 (fax)  
[mwebb@cau.edu](mailto:mwebb@cau.edu)

## Colorado AMP (1996)

Dr. Omnia El-Hakim  
Chair  
Department of Physics and Engineering  
Fort Lewis College  
1000 Rim Drive  
Durango, CO 81301  
(970) 247-7160 • (970) 247-7206 (fax)  
[elhakim\\_o@fortlewis.edu](mailto:elhakim_o@fortlewis.edu)

## Florida-Georgia AMP (1992)

Dr. Lynette P. Padmore  
Florida A&M University  
1540 South Adams Street  
Suite G  
Tallahassee, FL 32307  
(850) 561-2467/2479 • (850) 561-2684 (fax)  
[lpadmore@famu.edu](mailto:lpadmore@famu.edu)  
<http://www.famu.edu/fgamp>

## Heartland's Alliance AMP (1995)

Dr. Charles Sampson  
Dean of the Graduate School  
210 Jesse Hall  
University of Missouri-Columbia  
Columbia, MO 65211  
(573) 882-9576 • (573) 884-5454 (fax)  
[sampson@grad.missouri.edu](mailto:sampson@grad.missouri.edu)  
**Senior Project Manager**  
Dr. Richard Presberry  
[presberry@grad.missouri.edu](mailto:presberry@grad.missouri.edu)

## Louisiana AMP (1995)

Dr. Robert L. Ford  
Southern University and A&M College  
P.O. Box 9274  
Baton Rouge, LA 70813-9274  
(504) 771-2777 or 3890 • (504) 771-2311 or 3361 (fax)  
[robert.ford@em.doe.gov](mailto:robert.ford@em.doe.gov)  
**Program Administrator**  
Reba S. Poulson  
[rpoulson@concentric.net](mailto:rpoulson@concentric.net)

## University System of Maryland AMP (1995)

Dr. Freeman A. Hrabowski, III  
President  
University of Maryland Baltimore County  
1000 Hilltop Circle  
Baltimore, MD 21250  
(410) 455-2274 • (410) 455-1210 (fax)  
<http://www.umbc.edu/amp>  
[hrabowski@umbc.edu](mailto:hrabowski@umbc.edu)  
**Associate/Assistant**  
Cynthia M. Hill  
(410) 455-2445  
[chill@umbc.edu](mailto:chill@umbc.edu)

## Metropolitan Detroit AMP (1994)

Dr. Hanley Abramson  
Wayne State University  
Room 125 Shaper Hall  
Detroit, MI 48202  
(313) 577-1711 • (313) 577-5589 (fax)  
[hna@wizard.pharm.wayne.edu](mailto:hna@wizard.pharm.wayne.edu)  
**Associate/Assistant**  
William Hill  
(313) 577-3208  
[whill@cms.cc.wayne.edu](mailto:whill@cms.cc.wayne.edu)



**Mid-South AMP (1995)**

Dr. Jesse McClure  
 Vice President for Academic Affairs  
 LeMoyne-Owen College  
 807 Walker Avenue  
 Memphis, TN 38126  
 (901) 942-7305 • (901) 942-7373 (fax)  
 jesse\_mcclure@nile.lemoyne-owen.edu  
 http://www.mecca.org

**Associate Project Director**

Dr. Oristyne E. Walker  
 oristyne\_walker.qm@lemoyne-owen.edu

**Mississippi AMP (1991)**

Dr. Richard Sullivan  
 P.O. Box 18119  
 Jackson State University  
 Jackson, MS 39217-0619  
 (601) 968-2845 • (601) 968-2025 (fax)  
 sullivan@tiger.jsums.edu  
 http://tiger.jsums.edu:8080/MAMP/MAMP/html

**Associate/Assistant**

Marilyn D'Isepo

**All Nations AMP (1994)**

Dr. Joseph McDonald  
 Salish Kootenai College  
 Box 117  
 Pablo, MT 59855  
 (406) 675-4800 x 400 • (406) 675-4801 (fax)  
 joe\_mcdonald@skc.edu  
 http://www.skc.edu/ampwww/index.htm

**Program Manager**

Judy Gobert  
 judy\_m\_gobert@skc.edu

**New Mexico AMP (1993)**

Dr. Ricardo Jacquez  
 New Mexico State University  
 P.O. Box 30001 - MSC 3AMP  
 Las Cruces, NM 88003-8001  
 (505) 646-1847 • (505) 646-2960 (fax)  
 rjaquez@nmsu.edu  
 http://www.nmsu.edu/~nmamp/

**Associate/Assistant**

Michele Buntain  
 (505) 646-1168  
 mbuntain@nmsu.edu

**New York City AMP (1992)**

Dr. Neville A. Parker  
 City College  
 Convent Avenue & 138th Street  
 Bldg. Y - Room 313A  
 New York, NY 10031  
 (212) 650-8854 or 8054 • (212) 650-8855 (fax)  
 ampcc@cunyvm.cuny.edu

**North Carolina AMP (1992)**

Dr. Harold L. Martin  
 Vice Chancellor for Academic Affairs  
 North Carolina A&T State University  
 Dowdy Administration Building, Suite 315  
 1601 East Market Street  
 Greensboro, NC 27411

**North Carolina AMP (Continued)**

(336) 334-7965/7966 • (336) 334-7136 (fax)  
 hlm@ncat.edu  
**NCAMP Coordinator**  
 Dr. Vivian Hampton  
 (336) 334-7447, ext. 140  
 vivian@ncat.edu

**Oklahoma AMP (1994)**

Dr. Earl Mitchell  
 408 Whitehurst  
 Oklahoma State University  
 Office of Multicultural Affairs  
 Stillwater, OK 74078  
 (405) 744-5372 • (405) 744-5576 (fax)  
 ldsilva@biochem.okstate.edu  
 http://bmb-  
 fs1.biochem.okstate.edu/OKAMPHomePage.html

**Associate/Assistant**

Dr. Judy Batson  
 (405) 744-7827  
 judy.batson@okway.okstate.edu

**Greater Philadelphia Region AMP(1994)**

Dr. Corrinne Caldwell  
 Acting Provost  
 Temple University (041-03)  
 Conwell Hall, 4th Floor  
 1801 North Board Street  
 Philadelphia, PA 19122-6096  
 (215) 204-4775 • (215) 204-5816 (fax)  
 ccaldwel@thunder.temple.edu

**Associate Project Director**

Dr. Antonio Goncalves  
 Associate Vice Provost for Research  
 (215) 204-7662 • (215) 204-7486 (fax)  
 agoncalv@thunder.temple.edu

**Puerto Rico AMP (1991)**

Dr. Manuel Gomez  
 Resource Center for Science and Engineering  
 University of Puerto Rico  
 P.O. Box 23334, University Station  
 San Juan, PR 00931-3334  
 (787) 764-8369 • (787) 756-7717 (fax)  
 m\_gomez@upr1.upr.clu.edu  
**Co-Principal Investigator**  
 Dr. Ana Pinero  
 a\_pinero@upr1.upr.clu.edu

**South Carolina AMP (1992)**

Dr. Craig A. Rogers  
 Dean, College of Engineering  
 University of South Carolina  
 300 S. Main, Room B204  
 Columbia, SC 29208  
 (803) 777-2464 • (803) 777-2847 (fax)  
 Rogers@sc.edu  
**Program Manager**  
 Dr. Angela Williams  
 Williaaw@engr.sc.edu

**SUNY AMP (1996)**

Dr. David L. Ferguson  
 Program in Technology and Society

**SUNY AMP (Continued)**

College of Engineering and Applied Sciences  
 State University of New York-Stony Brook  
 Stony Brook, NY 11794-2250  
 (516) 632-9987 or 9988 • (516) 632-7809 (fax)  
 dferguson@notes.cc.sunysb.edu  
**System-Wide Coordinator**  
 Lucy Gluck  
 (516) 632-9988  
 lgluck@notes.cc.sunysb.edu

**Texas AMP (1991)**

Dr. Karan L. Watson  
 Associate Dean of Engineering  
 Texas A&M University  
 College Station, TX 77843-3127  
 (409) 862-4367 • (409) 845-8986 (fax)  
 watson@ee.tamu.edu  
**Associate Director**  
 Dr. Rita Caso-Esposito  
 (409) 862-1070 • (409) 862-1267 (fax)  
 mre1586@unix.tamu.edu

**University of Texas System AMP (1992)**

Dr. Pablo Arenaz  
 Associate Dean, College of Science  
 The University of Texas at El Paso  
 El Paso, TX 79968-0509  
 (915) 747-6005 • (915) 747-6807 (fax)  
 parenaz@utep.edu

**Washington-Baltimore-Hampton Roads AMP (1993)**

Dr. Clarence M. Lee  
 College of Arts and Sciences  
 Howard University  
 Washington, DC 20059  
 (202) 806-6700 • (202) 806-9641 (fax)  
 cmleeone@access.howard.edu  
**Associate/Assistant**  
 Dorothy Walker-Jones  
 djones@fac.howard.edu

**Western Alliance to Expand Student Opportunities AMP (1991)**

Dr. Antonio A. Garcia  
 c/o Hispanic Research Center  
 Arizona State University  
 Tempe, AZ 85287-2702  
 (602) 965-5388 • (602) 965-8309 (fax)  
 tony.garcia@asu.edu  
 http://mati.eas.asu.edu.8421

**Xavier-UNCF AMP (1995)**

Dr. Leonard Price  
 Professor of Chemistry  
 Xavier University of Louisiana  
 7325 Palmetto Street  
 New Orleans, LA 70125  
 (504) 483-7378 • (504) 485-7942 (fax)  
 lprice@mail.xula.edu  
**Associate/Assistant**  
 Grace Flickinger  
 gflickin@mail.xula.edu



# The National Science Foundation Alliances for Minority Participation

