

# OKAMP-SMETE ANNUAL REPORT 1996

A publication of

The Oklahoma Alliance for Minority  
Participation in Science, Mathematics,  
Engineering, Technology and Education

## Projector Director's Statement

The Oklahoma Alliance for Minority Participation in Science, Mathematics, Engineering and Technology (OKAMP-SMETE), comprising twenty-seven universities and colleges within the state of Oklahoma, has been established to address the critical under supply of minority students pursuing degrees in SMETE.

The 1990 Census shows Oklahoma to have the highest American Indian population in the United States (8%). Oklahoma also has the largest proportion of American Indian students of any state. While serving all target minority groups (American Indian, African American, Hispanic and Pacific Islander), the Oklahoma Alliance places an emphasis on American Indian students. The Alliance institutions together enroll over 2,000 minority students with undergraduate majors in SMETE. The three research universities have over 150 minority students pursuing graduate study in these fields.

The primary goal and objective of this program is to increase the number of under represented minorities in SMETE fields by 15% annually. An overview of the numbers shows this program to be highly successful. Compared with baseline information in 1994, Year One (1995) saw a 14.9% increase in minorities graduating in SMETE fields. Year Two (1996), however, saw only a 4.8% increase over 1995. This may seem low, but compared with a 6.6% decline in non-minority graduates, this number is excellent. There were also extenuating circumstances in academic year 1995/96 which affected the numbers. The Oklahoma Alliance did not receive funding until June 1996 due to the government shut down. Several Alliance institutions were unable to support students spring semester 1996 and were unable to place adequate numbers of students in Summer Internships.

### **PARTICIPATING INSTITUTIONS**

Three research universities: Oklahoma State University, University of Oklahoma, University of Tulsa  
Langston University, Oklahoma's historically African American University

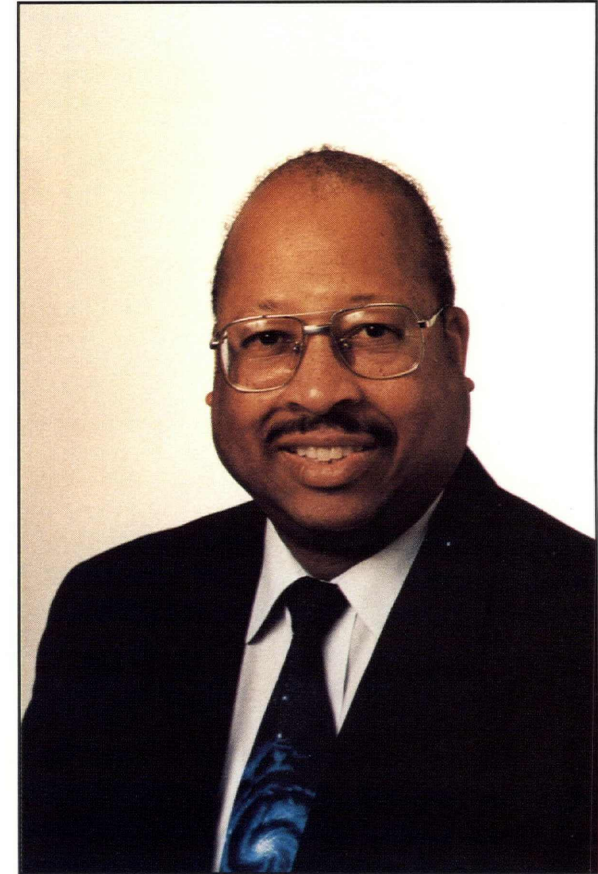
One large metropolitan university: University of Central Oklahoma

Nine regional universities of the state system

Eleven two-year colleges, including Bacone College, a private American Indian College

Three other private colleges and universities

see back cover for full listing

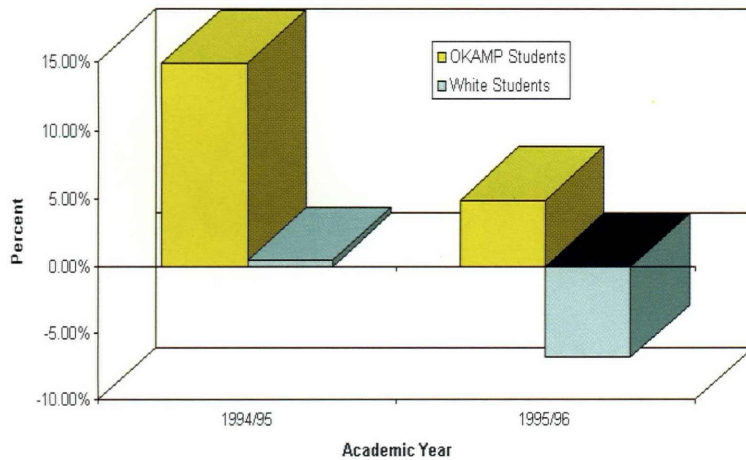


increase in minorities graduating in SMETE fields. Year Two (1996), however, saw only a 4.8% increase over 1995. This may seem low, but compared with a 6.6% decline in non-minority graduates, this number is excellent. There were also extenuating circumstances in academic year 1995/96 which affected the numbers. The Oklahoma Alliance did not receive funding until June 1996 due to the government shut down. Several Alliance institutions were unable to support students spring semester 1996 and were unable to place adequate numbers of students in Summer Internships.

On another level, academic performance is increasing for OKAMP-SMETE students, and they are performing better than non OKAMP-SMETE students. Projections for year three show an even greater potential for students graduating in SMETE fields.

## CHART 1

Increases/Decreases in B.S. Degrees



The chart at the right compares the increase or decrease in SMETE BS degrees awarded to under represented minorities and to White students at OKAMP Alliance Institutions. The accompanying table, below, shows the actual numbers graduating in SMETE fields for the same years.

A comparison of the numbers shows that, while there are more White students, OKAMP students are doing quite well in proportion to their actual numbers. The 1994/95 Academic Year showed a 14.95% increase in OKAMP graduates and a .48% increase in White graduates from 1993/94. Interestingly, the number of 1995/96 OKAMP graduates increased by 4.84%, while the White graduates decreased by 6.89%.

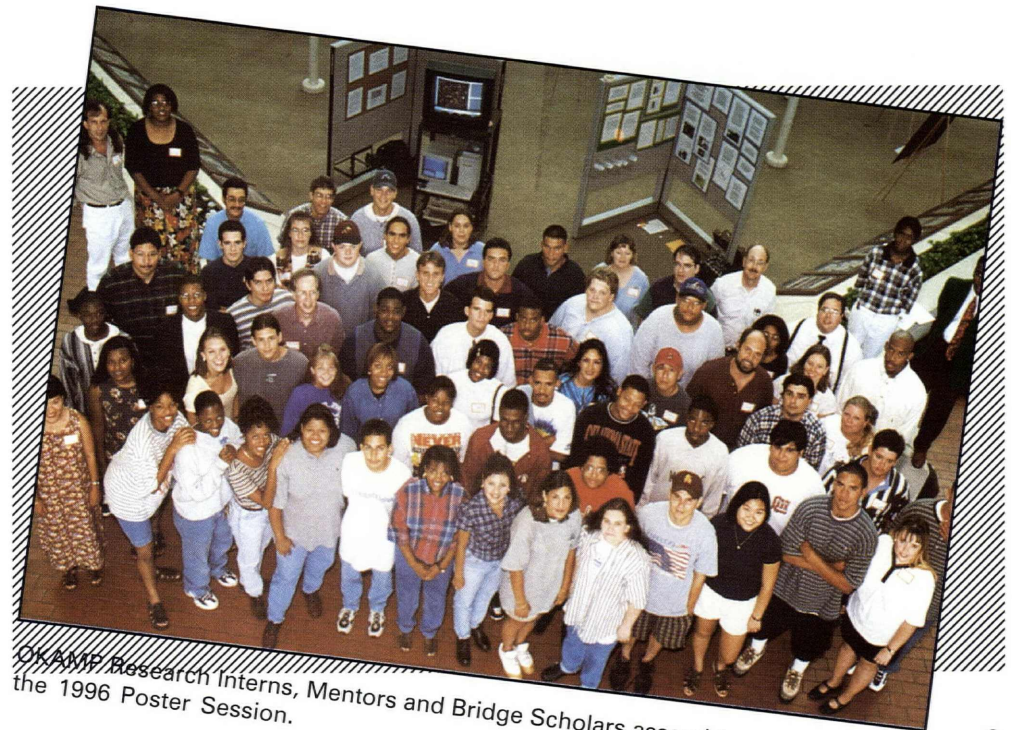
	1993/94	1994/95	1995/96
OKAMP Students	214	246	258
White Students	1448	1455	1356

## THE COMPONENTS

There are three components of OKAMP-SMETE designed to encourage the success of SMETE students. The Summer Bridge Program is a residential program offered at the Lead Institution open to rising college freshmen from across the state. This component provides eligible students a jump start on college courses and experience as they make the transition from high school to college. This program was expanded in 1996 and is now also offered by Langston University.

The Research Internship Program is offered by all Partner Institutions and provides research stipends to eligible undergraduate SMETE students for two months during the summer at the Alliance Institution of their choice.

The Semester Scholars Program provides financial, academic and social support for undergraduate SMETE students in eligible majors who attend any of the Partner Institutions.



OKAMP Research Interns, Mentors and Bridge Scholars assemble at the 1996 Poster Session.

**CHART 2**  
Distribution by Ethnicity

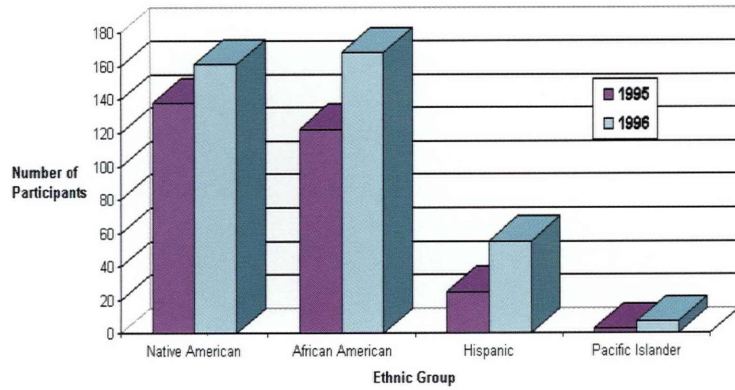
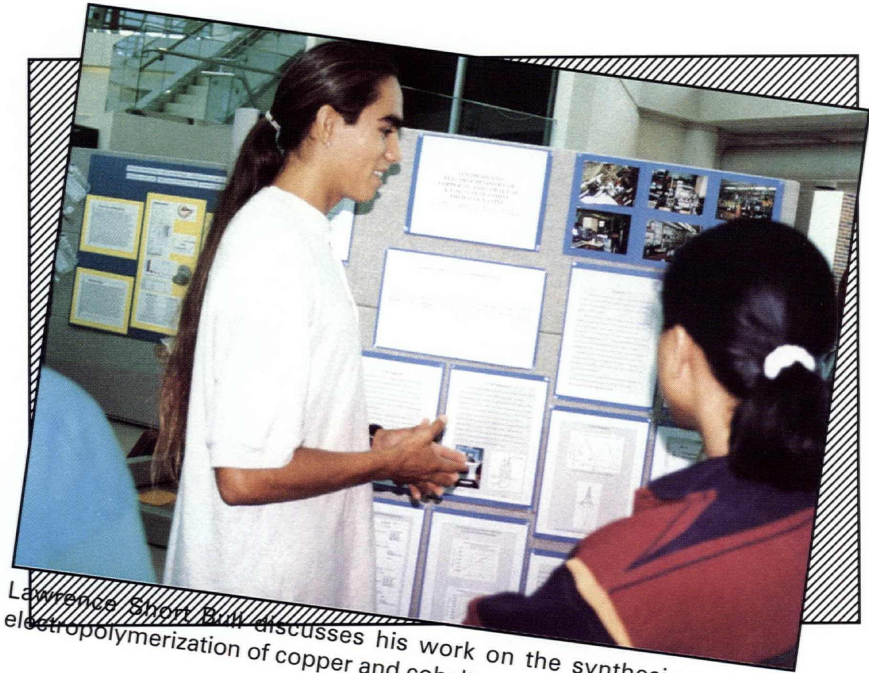


Chart 2 compares the ethnic distribution of participants between 1995 and 1996. While the numbers of participants in all targeted ethnic groups increased, the proportional increases are more exciting: Native American participants increased by 16.7%; African American by 37.7%; Hispanic students by 120%; and the Pacific Islander participation increased by an incredible 133%.

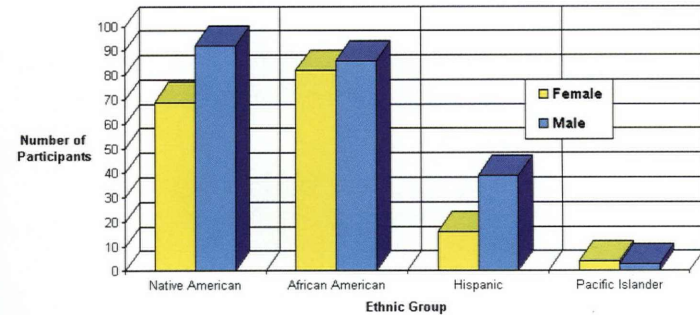


Lawrence Short, BSW discusses his work on the synthesis and electropolymerization of copper and cobalt compounds.



Lisa Fields, OKAMP Intern, cultivates specimens used in her summer research project.

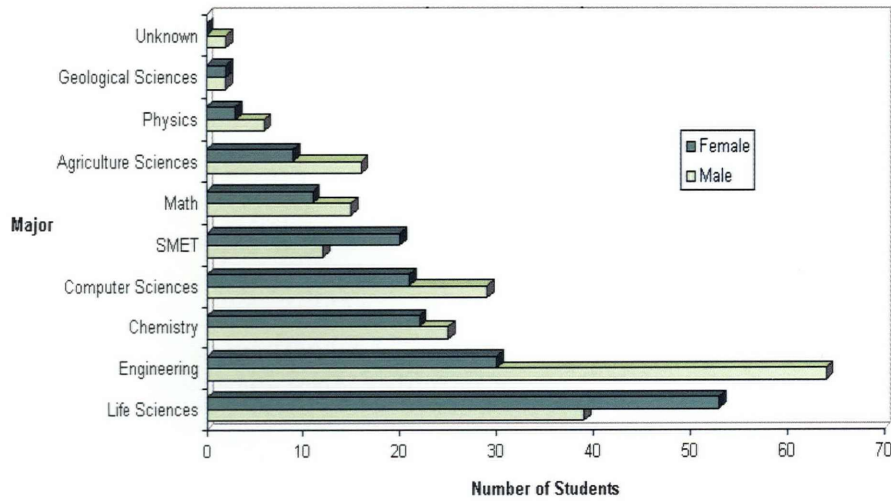
**CHART 3**  
Distribution by Gender



Above is a comparison of the gender distribution by ethnic group among OKAMP participants. Among all but Pacific Islanders (57.1% female, 42.9% male) male participants outnumbered female participants (Native American 42.9% female, 57.1% male; African American 48.8% female, 51.2% male). The largest difference being among Hispanic participants (29.1% female, 70.9% male).

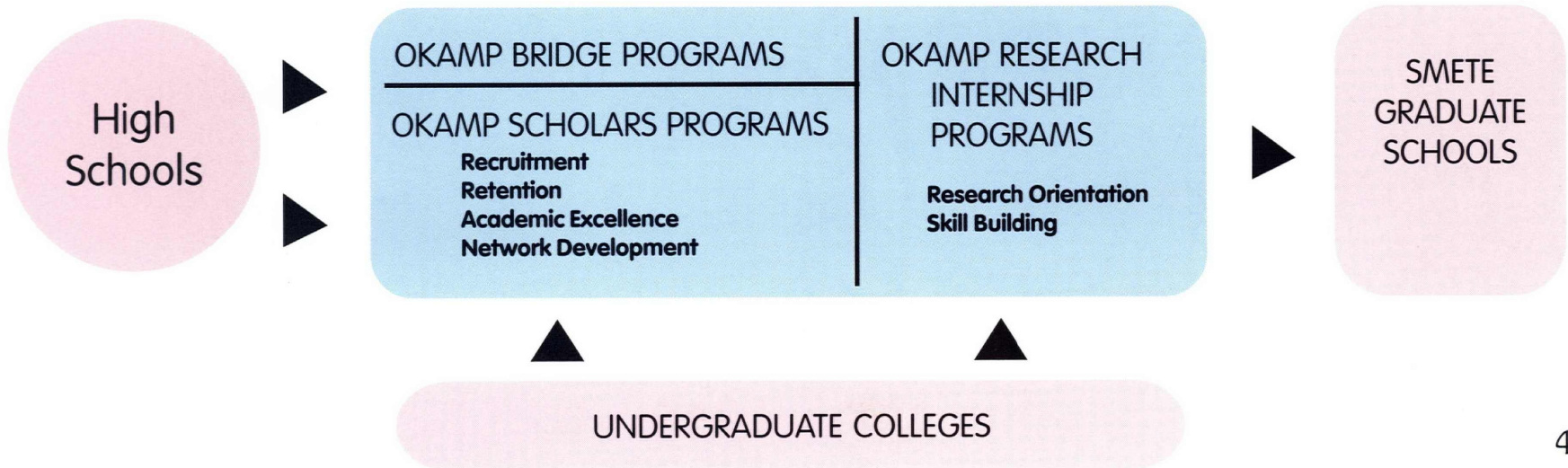
### CHART 4

Distribution by Gender and Major



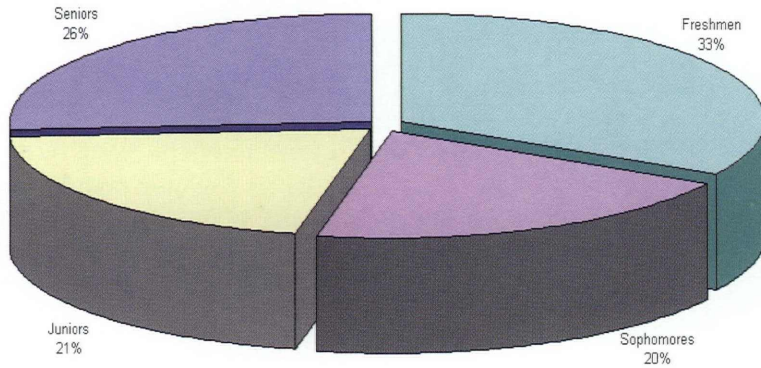
The chart at the left shows the distribution of participants by major and gender. Compared in this manner, the only area in which male participants far outnumber female participants is in Engineering. The other areas the numbers are close to being equal.

### SMETE EDUCATION CONTINUUM

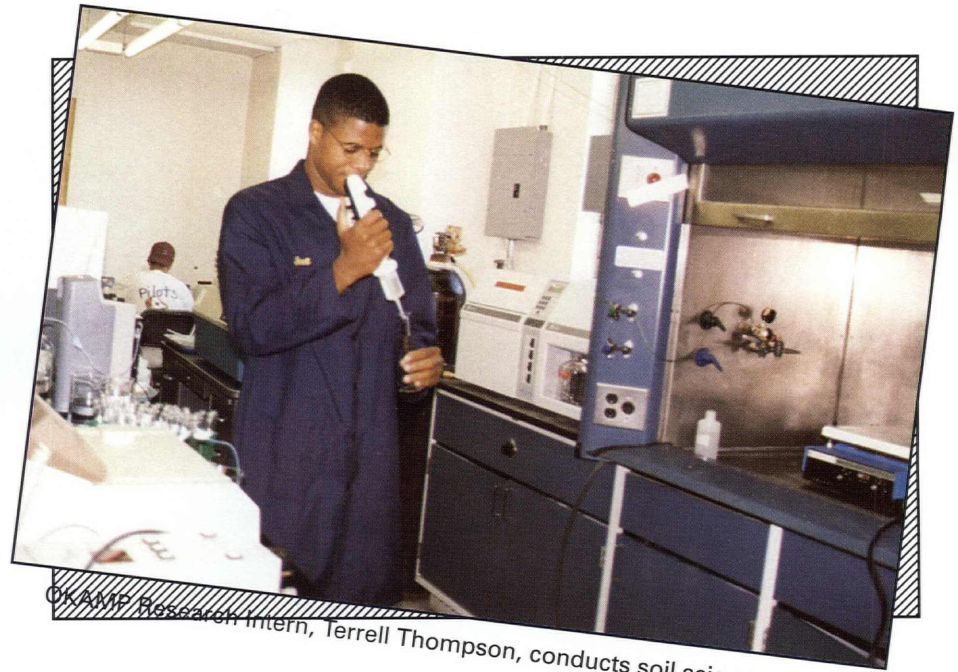


## CHART 5

OKAMP Participant Distribution by Class 1996



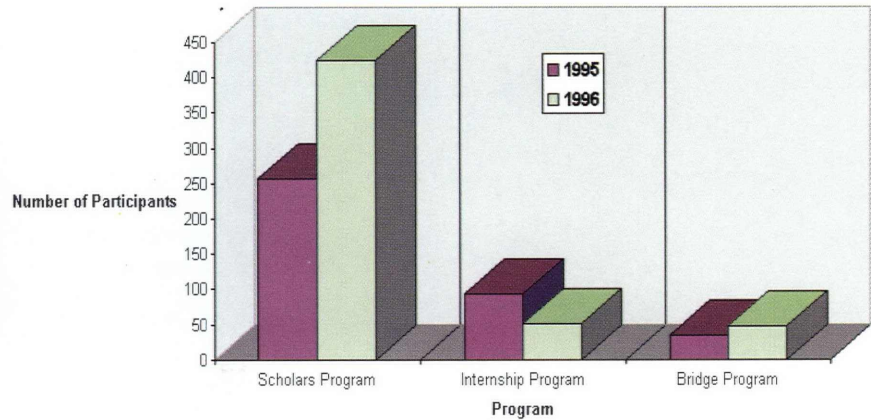
The largest group of OKAMP participants in 1996 are Freshmen, with Seniors the second largest, Juniors the third and Sophomores fourth largest. This represents a small change from the figures for 1995.



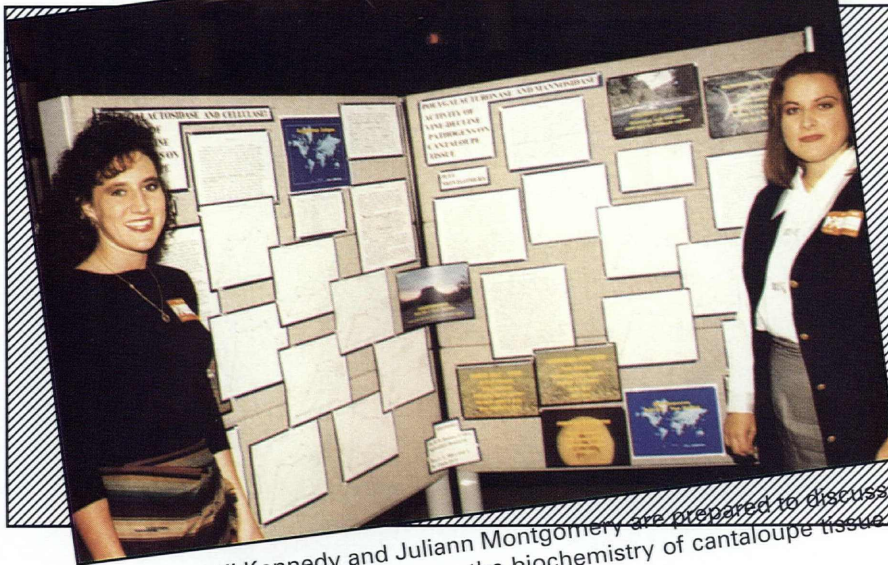
OKAMP Research Intern, Terrell Thompson, conducts soil science research.

## CHART 6

Distribution by Program



Participation in the Scholars Program has increased. The Internship Program participation was limited because delays in funding hampered the ability of Partner Institutions to support internships in 1996.



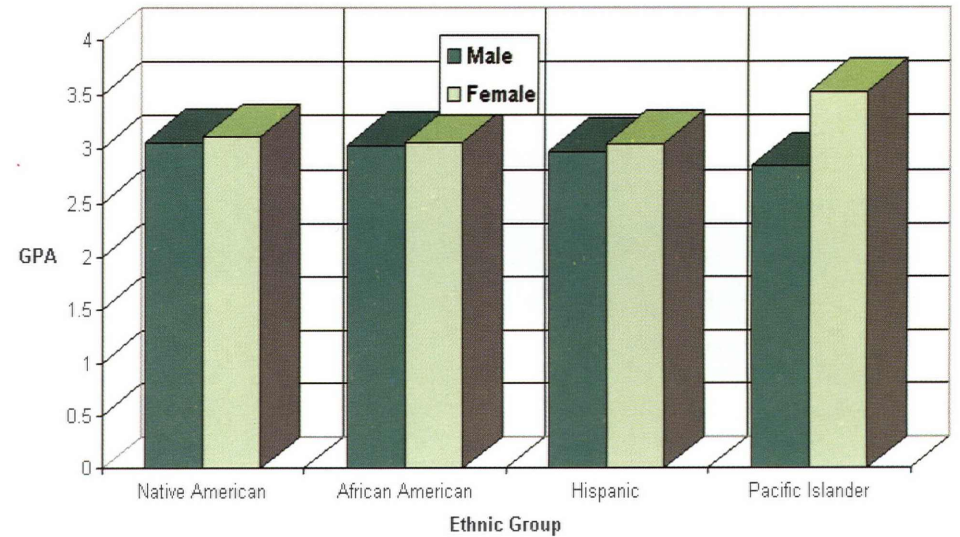
Ki Kennedy and Juliann Montgomery are prepared to discuss their project on the biochemistry of cantaloupe tissue.



ECU OKAMP Director, Dr. Carl Rutledge, and Coordinator, Kathy Niblett, discuss a student's application.

### CHART 8

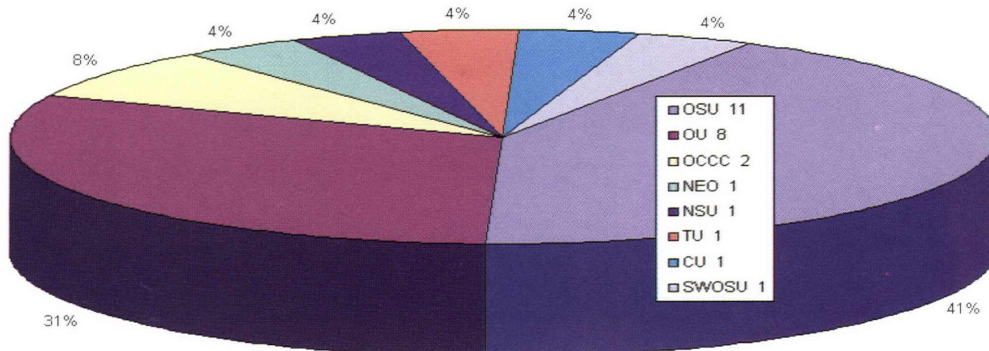
Average GPA of Participants



The overall average GPA for OKAMP participants is 3.06. In comparison the average cumulative GPA for non-OKAMP minorities in SMETE FIELDS is 2.69. The average for OKAMP males is 3.03, and the average for OKAMP females is 3.09.

### CHART 7

Bridge Program Distribution by Institution 1996  
n=26



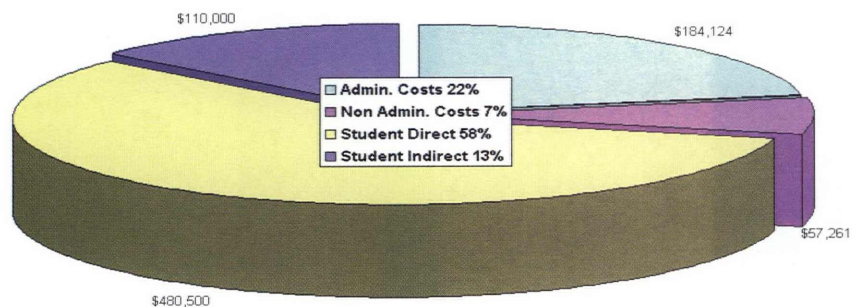
### LEGEND

- |                                  |       |
|----------------------------------|-------|
| Oklahoma State University        | OSU   |
| University of Oklahoma           | OU    |
| Oklahoma City Community College  | OCCC  |
| University of Tulsa              | TU    |
| Southwestern OK State University | SWOSU |
| Cameron University               | CU    |
| Northwestern OK State University | NSU   |
| Northeastern OK State University | NEO   |

Note: Langston University sponsored a Bridge Program with 22 participants.

## CHART 9

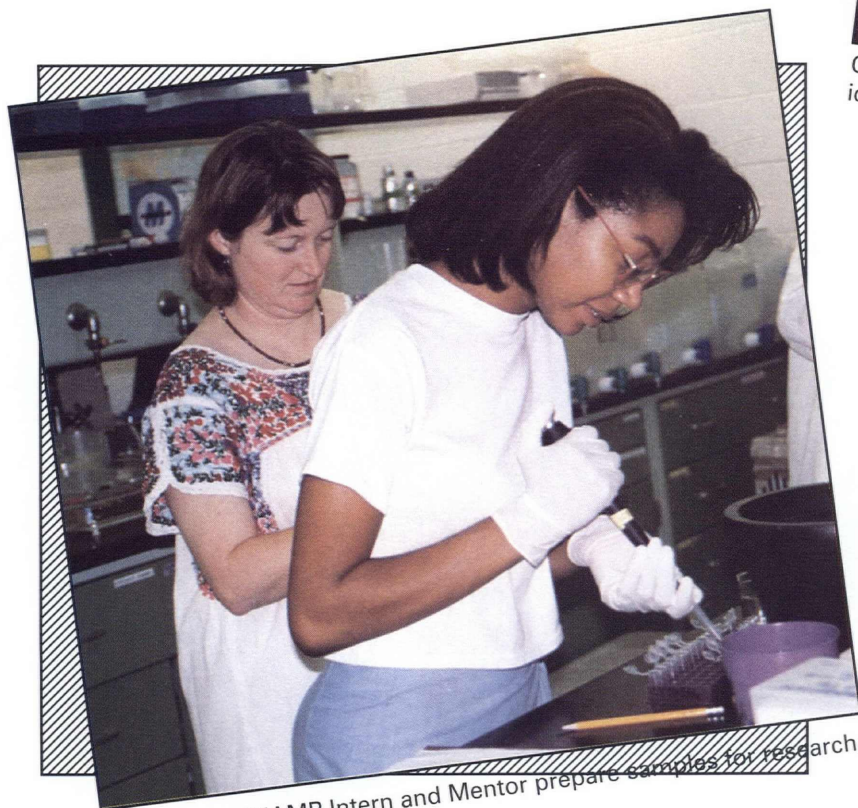
Distribution of OKAMP Funds 1996



This chart shows the distribution of OKAMP funds for 1996. The largest share went to direct student support, the next largest to administrative costs.



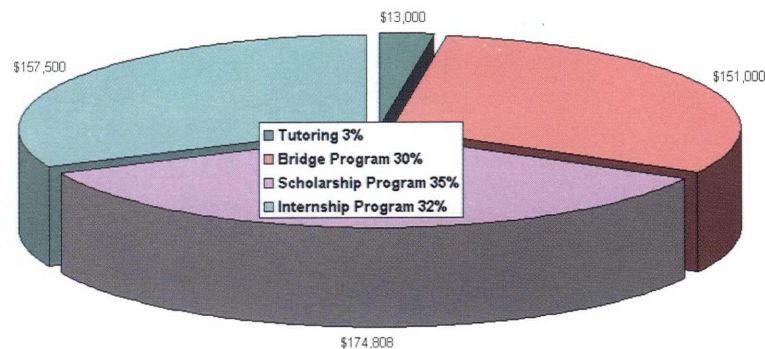
Coordinators from the eight OKAMP Partner Institutions meet to share ideas on their campus programs.



OKAMP Intern and Mentor prepare samples for research.

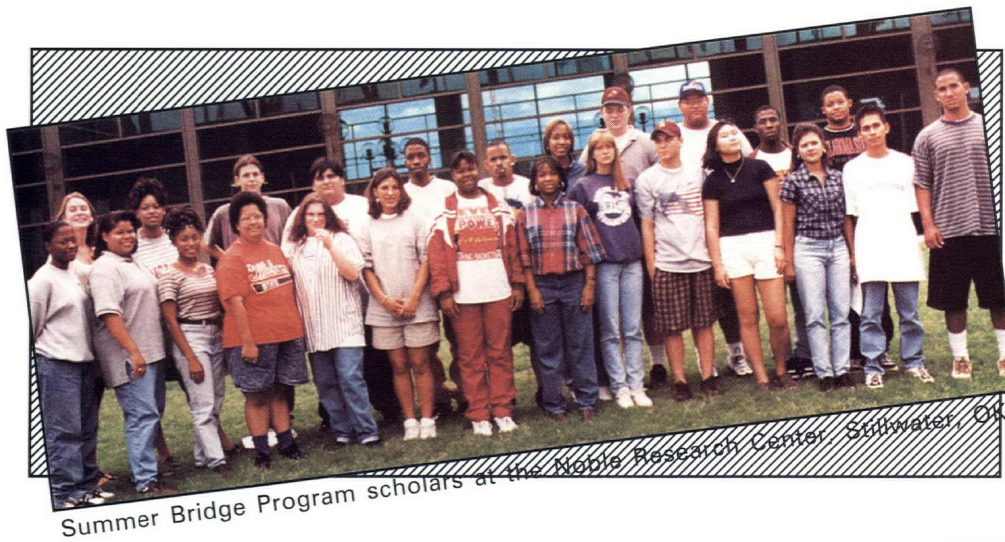
## CHART 10

Distribution by Activities 1996



The chart above shows the distribution of the direct student aid portion by activity. The funds are fairly evenly distributed between the three major components of OKAMP, with a small amount for tutoring.

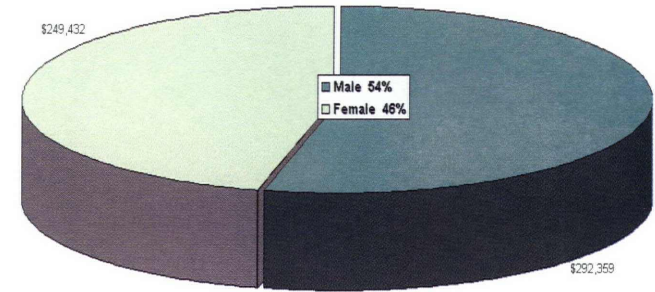




Summer Bridge Program scholars at the Noble Research Center, Stillwater, OK.

### CHART 12

Distribution of Financial Support by Gender 1996



Financial support to males and females reflects the larger number of male participants in OKAMP-SMETE.

### CHART 11

Distribution of Financial Support by Ethnic Group 1996

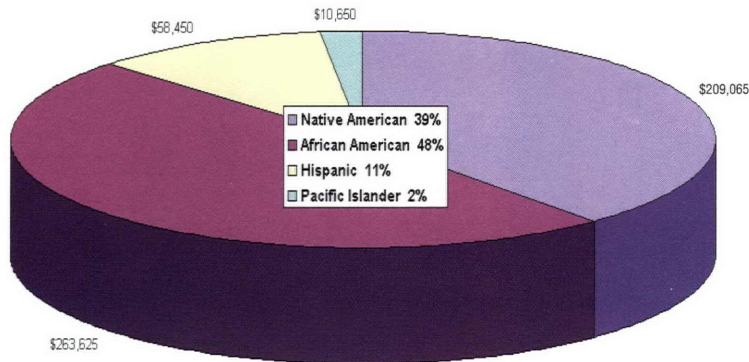


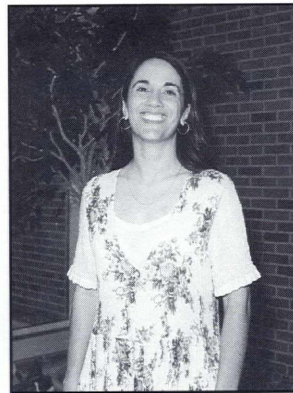
Chart 11 shows the distribution of funds by ethnic group is roughly on a par with the distribution of participants among ethnic groups. See Chart 2.



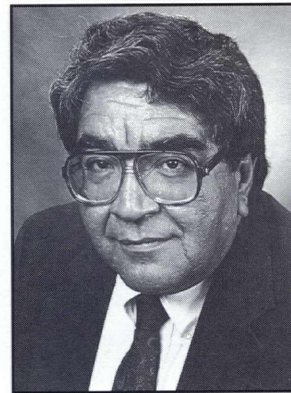
At a Native American youth conference in Oklahoma City, visitors collect information about SMETE careers and OKAMP opportunities.



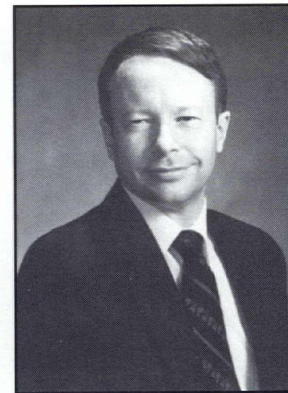
Dr. Judy Batson  
Program Manager



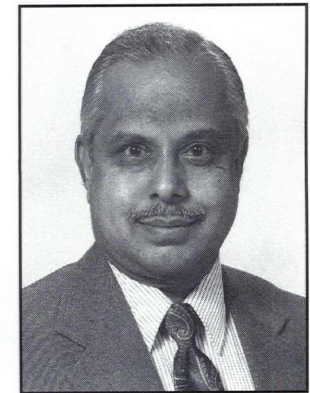
Ms. Valerie Shangreaux  
Campus Coordinator  
Oklahoma State University



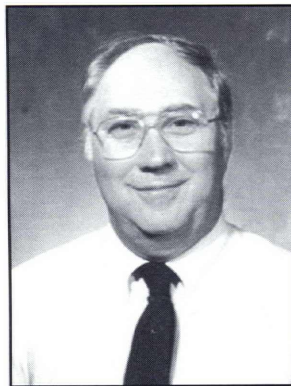
Mr. Wayne Steen  
Co-PI  
University of Oklahoma



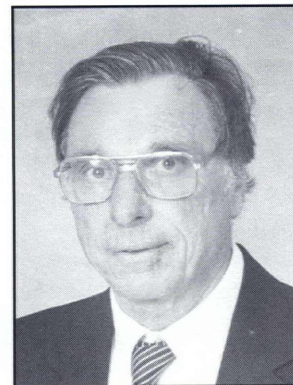
Dr. Carl Rutledge  
Co-PI  
East Central University



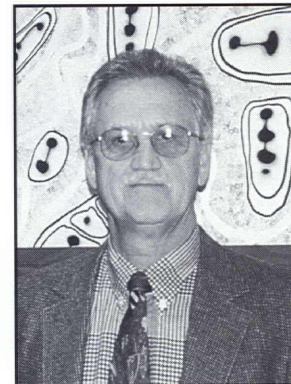
Dr. S. N. Rao  
Co-PI  
University of Central OK



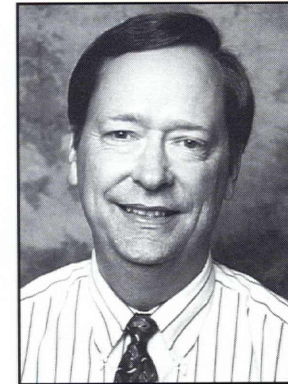
Mr. Billy Stewart  
Co-PI  
Northwestern OK State



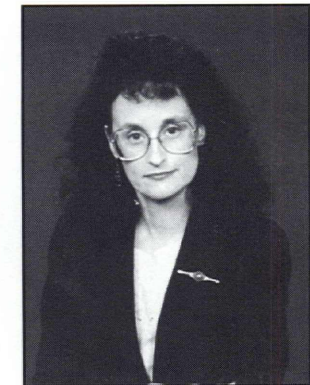
Dr. Phillip Schapiro  
Co-PI  
Langston University



Dr. James Lester  
Campus Coordinator  
Southeastern OK State

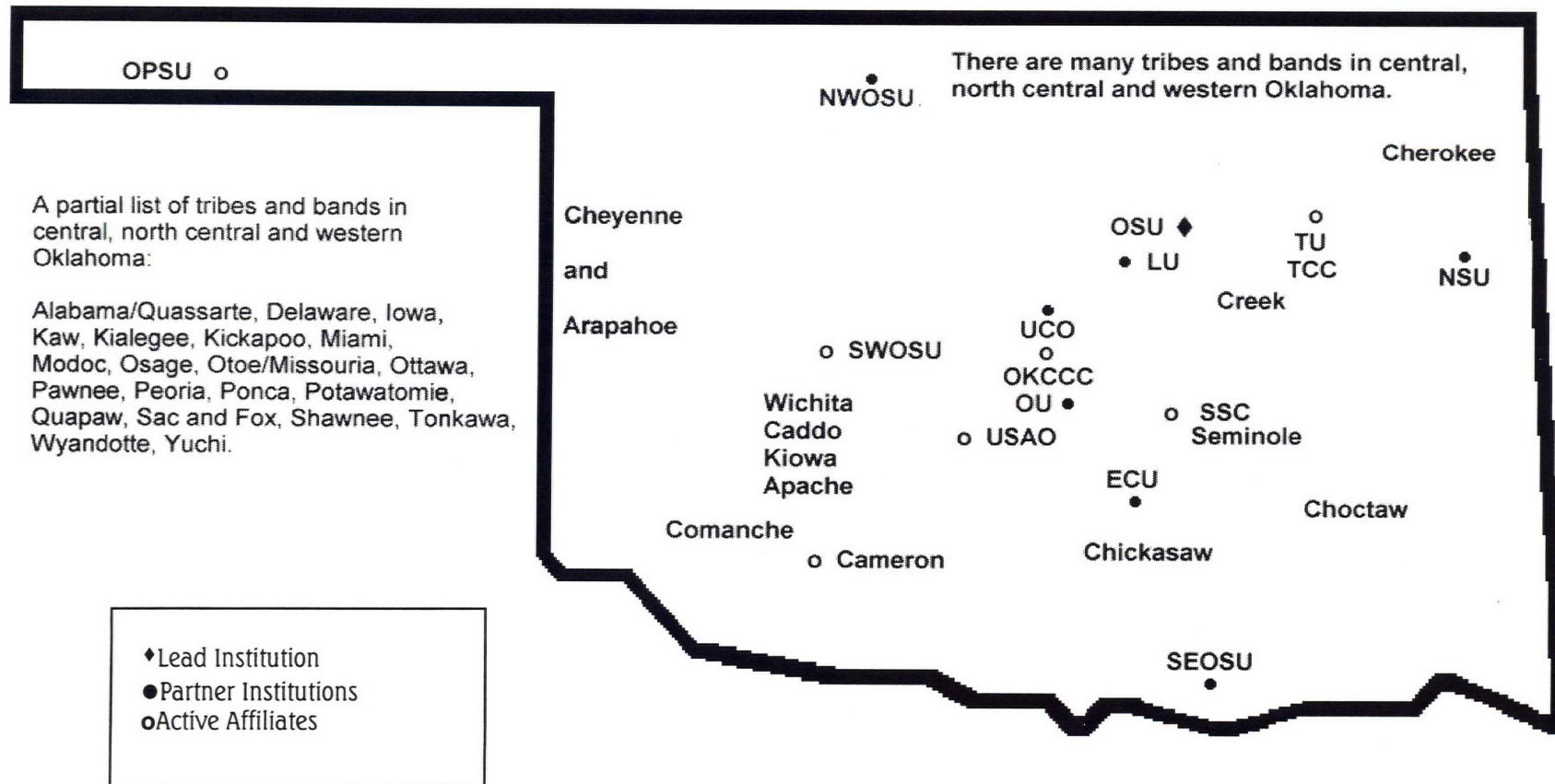


Dr. Myron Cherry  
Co-PI  
Northeastern State Univ.



Ms. Kay Wood  
Co-PI  
Teacher Prep. Component

OKAMP is comprised of the Lead Institution, seven Partner Institutions and twenty Affiliate Institutions from across the state of Oklahoma. Below are the locations of the Lead and Partner Institutions, the Active Affiliates and their relationship to Native American populations in the state of Oklahoma. For a complete list see the back cover.



Earl D. Mitchell, Jr., Ph.D.  
Project Director  
Associate VP Multicultural Affairs  
Oklahoma State University  
408 Whitehurst  
Stillwater, OK 74078  
(405)744-9154; FAX 744-5576  
Idsilva@okway.okstate.edu

Dr. Judy M. Batson  
Program Manager  
246 Noble Research Center  
Stillwater, OK 74078-3035  
(405)744-7827; FAX 744-7799  
Judy.Batson@okway.okstate.edu

Ms. Valerie Shangreaux  
Campus Coordinator, OSU  
243 HES  
Stillwater, OK 74078  
(405)744-7313  
shane@okway.okstate.edu

Dr. Ann Ackerman, Vice President  
External Programs  
OKC Community College  
Oklahoma City, OK 73195  
(405)682-7559  
FAX (405)682-7559

Mr. Douglas Wayne Steen, Director  
Minority Engineering Program  
University of Oklahoma  
Norman, OK 73019  
(405)325-4161; FAX 325-7508  
Douglas.W.Steen-1@ou.edu

Ms. Sydney Jones  
Campus Coordinator, OU  
Norman, OK 73019  
(405)325-4161

Dr. Jack L. Robinson, Director  
Institutional Research & Planning  
Southeastern OK State University  
Durant, OK 74701  
(405)924-0121 X3531  
FAX (405)920-7472

Dr. James Lester  
Department of Biology  
Campus Coordinator  
Southeastern OK State University  
Durant, OK 74701  
(405)924-0121 X2236  
FAX (405)920-7476  
lesterj@sosu.edu

Dr. Myron Cherry  
Professor of Chemistry  
Northeastern State University  
Tahlequah, OK 74464-7099  
(918)458-5511 X3833  
FAX (918)458-2193  
cherry@cherokee.nsuok.edu

Ms. Carol Rhoads  
Center for Tribal Studies  
Campus Coordinator  
Northeastern State University  
Tahlequah, OK 74464-7099  
(405)466-5511 X 4350  
rhoads@cherokee.nsuok.edu

Dr. Carl Rutledge  
Professor of Physics  
East Central University  
Ada, OK 74820-6899  
(405)332-8000 X392; FAX (405)332-1623  
crutledge@mailclerk.ecok.edu

Ms. Kathy Niblett  
Campus Coordinator, ECU  
Ada, OK 74820-6899  
kniblett@mailclerk.ecok.edu

Dr. Phillip Schapiro  
Professor of Mathematics  
Langston University  
Langston, OK 73050-0907  
(405)466-3331; FAX 466-3381  
schapiro@mathrisc1.lunet.edu

Dr. S. N. Rao, Office of Assistant Dean  
Graduate College  
University of Central Oklahoma  
Edmond, OK 73034-0170  
(405)341-2980 X2524; FAX 330-3830  
SNRAO@AIX1.UCOK.EDU

Dr. Darry S. Carlstone  
Campus Coordinator, UCO  
Edmond, OK 73034-0170  
carlstn@aix1.ucok.edu

Mr. Billy Stewart  
Professor of Mathematics  
Northwestern OK State University  
Alva, OK 73717-2749  
(405)327-8580; FAX 327-1881

Visit us at our website: <http://bmb-fs1.biochem.okstate.edu/OKAMPHomePage.html>

Visit the National Science Foundation website: <http://www.nsf.gov/>