OK-LSAMP SUMMER ’04 RESEARCH INTERNS

For the 9th consecutive summer term of its nearly 10-year existence, the Oklahoma Alliance for Minority Participation program can boast of an impressive number of students from underrepresented populations participating in summer research programs and internships. Participating scholars are as follows:

**Southeastern Oklahoma State University**  
Dominic Barrett, US Fish and Wildlife Service, Alaska  
Wesley Jones, Quickset Corporation, Texas  
Brian Chavez, US Army Corps of Engineers, Texas  
Matthew McFerran, US Army Corps of Engineers, Texas  
Anson Sutterfield, Oklahoma Department of Wildlife Conservation  
James Morel, Utah State University  
Dawn Morningstar, Kansas State University  
Chrystal Dixon, Oklahoma State Parks

**Langston University**  
Quincy Anderson, Oklahoma State University, Biochemistry/Mol.Biol  
Derek Blythe, National Aeronautics and Space Administration (NASA)  
Argenia Doss, Oklahoma University Health Sciences Center  
Elise Griffin, Langston University Nutritional Sciences  
Steven Harris, University of California (Davis)  
Desmond Harvey, University of North Carolina, Chapel Hill  
Marquita Rowland, Oklahoma University Health Sciences Center  
Jon Walker, Oklahoma University Health Sciences Center  
Nico Singleton, Langston University Goat Research Program

**East Central University**  
Kara Chapman and Levica Chapman, REU in Physics, Florida State University  
Marshall McCutchen, Robert S. Kerr Environmental Research Center, Ada, Oklahoma  
Tiffany Howell, East Central Department of Biology  
Levi Standeford, East Central Department of Physics

**University of Oklahoma**  
Tyler Hicks, IBM, Tucson, AZ  
Shawn McCarroll, National Oceanic & Atmospheric Administration, Washington DC  
Michael Hollinger, IBM, Austin, TX  
Amy Adkison, ConocoPhillips, Anchorage, AL  
Paul Richardson, ConocoPhillips, Bartlesville, OK  
Quintin Hughes, Schlumberger, Houston, TX  
Brad Porter, IBM, San Jose, CA

**Southwestern Oklahoma State University**  
Nana Ayesu, BRIN (Biomedical Research Infrastructure Network), OUHSC  
Elizabeth Saladin, Mayo Clinic Undergraduate Research Program  
Grace Hassan, BRIN (Biomedical Research Infrastructure Network), OUHSC

**Oklahoma State University**  
Steven Bond, Department of Botany, Dr. Michael Palmer  
Marty Heppler, Department of Entomology, Dr. Jeanmarie Verchot-Lubiez  
Keith Larsen, Electrical and Computer Engineering, Dr. Keith Teague  
Kenina Seay, Department of Microbiology, Dr. Robert Miller  
Umana Aniem, Electrical and Computer Engineering, Dr. Thomas Gedra  
Paul Wright, Industrial Engineering/Management, Dr. Charlene Yauch  
Anna Spicer, REU Program, University of Central FL (Orlando)  
Christine Coe, Electrical Engineering, Dr. Alan Cheville  
Matthew Hamm, Bama Company, Tulsa OK  
Brek Wilkins, OSU Microbiology, Dr. Gilbert John
2003-2004 OK-LSAMP Scholars

During the fall and spring semesters of the 2003-2004 academic year, the OK-AMP program supported 192 Scholars. The distribution was as follows: Cameron University 19; East Central 18; Langston 28; Northwestern 6; Southeastern 14; Southwestern 5; University of Central Oklahoma 12; University of Tulsa 18; Oklahoma State University 44.; and 1 Affiliate Scholar at Oklahoma Christian University. Stipends ranged from $500 to $2,550 per semester.

May 2004 Graduates

East Central: April Anderson, Computer Science; Marshall McCutchen, Physics; Justin Wilks, Chemistry
Langston University: Deidre Carroll, Joy Ekpo, Brian Freeman, Victor Harris, James Patterson, Lila Peal, Alvin Quinn, Robert Billingslea.
University of Oklahoma: Justin Morgan, Mechanical Engineering; Jarrod Calhoun, Mechanical Engineering; Mariana Dionisio, Chemical Engineering; Lindsay Cantwell Mechanical Engineering; Michael Hollinger, Computer Engineering; Laura Pillow, Management Information Systems
Southeastern Oklahoma State University: Jack Roberts, Justin Wilson, Michael Clark.
University of Tulsa: Crystal Redden, Chemistry; John Hall, Biology; Michelle Stevenson, Physics; Eleazar Madrid, ME; Britney Grayson, Biology; Benjamin Orozco, Biology; Terry Tidwell, Computer Science; Matthew Morgan, CS; Melissa Lock, ME; Sarah Nelson, Geology.
Oklahoma State: Fred Beartrack, Tanesha Hooks, Tara Denay Huddleston, and Daniel Tomlinson.

Conference Participation

- National Conference for Undergraduate Research (NCUR)
- University of TX LSAMP Annual Symposium
- Oklahoma Academy of Science
- Student Research Day at Texas Tech University
- 10th Annual Student Research Conference, West TX A & M, Canyon, TX
- Colorado State McNair Conference
- Annual Meeting of the Oklahoma Chapter of the American Fisheries Society
- Annual Meeting of the Southwestern Association of Naturalists
- National Science Teachers Association
- American Indian Science & Engineering Society (AISES) 2004 Conference (Albuquerque, NM)
- OU Honors College Undergraduate Research Day
- Research Day for Regional Universities (University of Central Oklahoma, Edmond, OK)
- National Meeting of the American Association of Physics Teachers (Miami, Florida)
- Regional meeting of the Society of Physics Students (Southern Nazarene University, Bethany, OK)
- Annual meeting of Beta Kappa Chi Scientific Honor Society/National Institute of Science/Brookhaven Semester Program (Houston, TX)
- Society of Neuroscience (New Orleans)
- Langston University School of Arts and Sciences Fifth Annual Research Symposium (Langston, OK)
- OK-LSAMP Annual Research Symposium, Oklahoma State University, Stillwater OK

TU LS-OKAMP Scholars Inducted into Science and Engineering Honor Societies

Native American, African American, Hispanic, and Asian American Chapters of Science and Engineering Societies at the University of Tulsa were established to recognize and to foster academic achievements among Native American, African American, Hispanic, and Asian American students. The societies also seek to promote research, leadership, and service to their communities.

OK-LSAMP students inducted into the respective societies on April 22, 2004 were:

Native American: John Hall, Biology; Matthew Morgan, Computer Science; Sarah Nelson, Geology; Crystal Redden, Chemistry/Mathematics.
African American: Michelle Stevenson, Physics
Asian American: Melissa Lok, Mechanical Engineering
Hispanic: Britney Grayson, Biology; Eleazar Madrid, Mechanical Engineering; Benjamin Orozco, Biology

OK-LSAMP Students Among TOP 20 at Cameron

For many students at Cameron University (Lawton), making either the Top 20 or Top 10 lists is one of the highest honors they can attain during their college career. The Top 20 is comprised of outstanding Cameron juniors and seniors, while the Top 10 is made up of outstanding college students over the age of 25.

OK-LSAMP scholars included in the Spring ’04 Top 20 were Aurelio Roig and Tiffani Veal.

Honorees in both categories were selected by a committee of faculty, staff, and students based on the nominees’ grade point average, campus activities, leadership and honors. Grades account for 40 percent of the total score, while activities make up 60 percent.

Awards and Scholarships

Kara and Levia Chapman (ECU, Physics majors), each received a National Society of Physics Students Scholarship in the amount of $1000. Only 18 scholarships were awarded nationwide.
Justin Wilkes (ECU) won Overall First Place in the state at Fall ’03 Research Day.
Anson Sutterfield (SEOSU) was co-presenter on the Best Undergraduate Poster at the 92nd Annual Meeting of the Oklahoma Academy of Science (Bahn, Jesse, Anson Sutterfield, and Dr. Tim Patton – SEOSU OK-LSAMP Coordinator)
Dawn Morningstar (SEOSU) won the award for Best Undergraduate Oral Presentation at the 92nd Annual Meeting of the Oklahoma Academy of Science.
Frederick L. Brown (UCO) received the Community Service Award from the College of Math & Science on Physics Day
Jordan Morgan (OU), Outstanding Sophomore, Delta Upsilon Fraternity
Mariana Dionisio (OU), Award of Excellence, CEMS Department
Shawn McCarroll (OU), A.T. Anderson Scholarship from the American Indian Science and Engineering Society (AISES); elected Headman of OU’s Native American Brotherhood
Eli Monetatchi (OU), American Indian Honor Roll
Thomas Clark (OU), Alpha Lambda Delta College Honor Society
Paul Jaramillo (OU), College of Engineering Dean’s Honor Roll
Michael Hollinger (OU), Outstanding Senior Computer Engineering major; Co-Chair, Institute of Electrical and Electronics Engineering Tech Society; President, Eta Kappa Nu Electrical/Computer Engineering Honor Society
Paul Richardson, ConocoPhillips Scholar
Lindsay Duncan, OU Dean’s Honor Roll; OU Honor Scholar; Alpha Lambda Delta Honor Society

**EPSCoR Funds Travel to NCUR ‘04**

Oklahoma EPSCoR (Experimental Program to Stimulate Cooperative Research) sponsored the participation of 5 OK-LSAMP students and 2 program staff members in the 2004 NCUR (National Conference for Undergraduate Research) meeting held at Indiana University-Purdue. Attendees were Elizabeth Saladin and Steven Bond (SWOSU) and Jon Walker, Argenia Doss, Steven Harris (LU). Elizabeth Saladin and Jon Walker made presentations.

**Facts About the LSAMP Program**
- National undergraduate program that began in 1990;
- Aims to increase significantly the quantity and quality of students from underrepresented populations earning a degree in science, technology, engineering and mathematics (STEM) disciplines;
- Multiple institutions work in partnership toward common goal;
- 31 alliances, inclusive of approximately 400 campuses, are currently funded by the National Science Foundation;
- The largest partnerships are the All Nations-LSAMP comprised of 52 partners in 12 states and the Western Alliance to Expand Student Opportunities (WAESO-LSAMP) with 41 partners;
- The Oklahoma LSAMP program, comprised of 10 partner institutions with Oklahoma State University as the Lead Institution, began in 1994;
- Type of institutions include Research I Majority Schools, Historically Black Colleges and Universities (HCBUs), Hispanic Serving Institutions (HS’s), Tribal Colleges (TCs), and Community Colleges (CC);
- In 2003, more than 25,000 baccalaureate degrees were awarded to underrepresented minority students in STEM disciplines.

**Keys to OKLAHOMA LSAMP Success**
- Alliance structure with a Lead Institution, 9 Partner Institutions, and other institutions as Affiliates;
- Full time administrative staff at Lead Institution;
- Participation and supplemental financial support from the Oklahoma State Regents;
- Varied outreach and recruitment strategies;
- Organized programs: Summer Bridge, Fall and Spring semester Scholars Program, Summer Research Internship Program;
- Frequent student meetings: Monthly Scholars meetings (large group); weekly Cadre meetings (small group); one-on-one;
- Academic support;
- Mentoring;
- Career counseling;
- Faculty/Staff presentations;
- Annual Research Symposium;
- Participation in external professional meetings;
- Collaboration and exchange of ideas among Alliance partners;
- Collaboration with institutional programs and external agencies;
- Financial support.

**OK-LSAMP Graduates**

**1993-1994 ...214 (Baseline graduation number)**

**Phase I (1994-1999)**

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**Phase II (1999-2004)**

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<td>2002-2003</td>
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**Ph. D’s Earned**

- Jennifer Mann (ECU) – Mathematics, University of AR ’02
- Suzanne Tunnel Estes (ECU) – Biology, University of Oregon ’02
- Edward Daniel (OSU) – Elec. Enginr, Oklahoma State ’03

**Ph.D’s in Progress**

- Latricia Fitzgerald (LU) – Biochemistry, Meharry Med. College
- Daniel Wilson (UT) – Computer Science, Carnegie Melon
- Billy Gaston (LU) – Computer Science, Oklahoma State
- Byron Quinn (LU) – Biochemistry/Molecular Biology, Oklahoma State
- Barry Trotter (LU) – Chemistry, Johns Hopkins

**Annual Research Symposium Scheduled**

The tenth annual OK-LSAMP Research Symposium will be held on Saturday, September 25, 2004, 9:00 AM until 3:00 PM, at Oklahoma State University's Noble Research Center. All summer research interns will make oral and poster presentations.

The Symposium also encompasses a Graduate School Preparation Seminar as well as the first fall semester Alliance meeting. The public is invited to attend.
OK-LSAMP RECEIVES PHASE III FUNDING

The National Science Foundation has funded the Oklahoma AMP program for the 3rd consecutive 5-year phase beginning November 2004 and ending October 2009. In Phases I (1994-1999) and II (1999-2004), the program focused on increasing the graduation rate of students from underrepresented populations in STEM disciplines, and encouragement to pursue graduate-level education. Phase III, with fewer students, will focus entirely on the Graduation Preparation Component that includes a stronger research emphasis and entrance into doctoral programs.

Specific programs and activities include:

- Weekly meetings in the beginning of each semester to report progress
- Enhanced stipends for students that present and co-author research papers
- Faculty mentoring workshops
- Special teaching workshops for students
- One required seminar on Scientific/Research Integrity
- Mandatory participation in the annual OK-LSAMP Research Symposium
- Presentation of papers at regional and/or national meetings
- Completion of the GRE Prep course

OK-LSAMP will develop a series of modules to assist all participants and other students in their preparation for graduate school. Scholars will be required to begin the modules upon successful completion of a minimum of 60 credit hours and continue until all modules are completed. The modules will cover a variety of topics including but not limited to: Things To Do Before You Get to Graduate School; Graduate Exam Preparation; Choosing the Right Graduate School and Advisor; How to Thrive in Graduate School; Issues for Minority Students; and Financial Assistance.

According to Mitchell, OK-LSAMP Program Director, the 593 graduates that the program has produced creates a critical mass of potential graduate students, with more than 60% having maintained better than a 3.0 GPA.

NATIONAL SCIENCE FOUNDATION (NSF) INSTITUTES ‘BRIDGE TO DOCTORATE’ PROGRAM

The Oklahoma LSAMP program is one of 16 participants in NSF’s newly instituted ‘Bridge to the Doctorate’ (BD) supplementary initiative at Phase III LSAMP Alliance institutions, with Oklahoma State University as the BD site. The program, launched in fall 2003, provides competitive support during the initial 2-years of graduate study for LSAMP baccalaureate degree recipients, thus broadening attraction and participation of students from underrepresented populations in science, technology, engineering and mathematics (STEM) disciplines. LSAMP programs and BD sites (in parentheses) are as follows:

<table>
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<tr>
<th>LSAMP Program</th>
<th>BD Site</th>
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<td>Alabama</td>
<td>UAB-Huntsville</td>
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<tr>
<td>California</td>
<td>UC-Irvine</td>
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Requirements for acceptance into the BD program are: B.S. in STEM discipline; minimum 3.0 GPA; undergraduate participation in LSAMP program; US citizenship; admission to Graduate College and STEM graduate department; and commitment to pursue the Ph.D. in a STEM field.

Oklahoma State University, as well as other BD programs, provides full graduate tuition and fees, a stipend of $30,000/year, mentoring program, conference travel, seminars and workshops, graduate and professional student association membership, academic enrichment, and excellent post graduate education training.

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OK-LSAMP Summer ’04 Research Intern

Marty Hepler, OSU senior, has worked in the lab of Dr. Jeanmarie Verchot-Lubicz, Associate Professor, Entomology and Plant Pathology, for 2 years. Publications of which Marty is a part are as follows: Howard, A.R., Hepler, M., Payton, M.E., Ding, B., Verchot-Lubicz, J. (2004). The Potato virus XTBp1 is the primary viral factor that can move from cell to cell and induce plasmodesmata gating in several plant species. Virology, in press; and Krishnamurthy, K., Mitra, R., Hepler, M., Payton, M.E., and Verchot-Lubicz, J. (2003). The Potato virus XTBp3 protein associates with the endoplasmic reticulum for virus cell-to-cell movement. Virology, 309, 135-151. According to Dr. Verchot-Lubicz, ‘when Marty joined my laboratory, she had very little direction and confidence and has since gained the maturity to participate in research projects along side graduate students and post docs. She is often the first person in the lab and has a fantastic work ethic.’