

LS CO-AMP Concludes Successful Year

The LS CO-AMP statewide consortium concluded a very successful third year of operation.

Highlights from the Government Performance and Results Act (GPRA), which was submitted to the National Science Foundation on October 31, 1999, include:

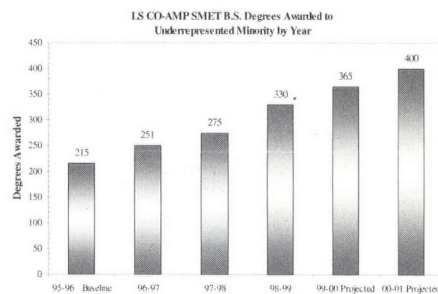
- 53% increase from 1995-96 baseline (215 to 330) in SMET Baccalaureate

degrees awarded to underrepresented minorities.

- Surpassing the 1998-99 promised number of SMET Baccalaureate degrees awarded to underrepresented minorities by 17% (282 promised vs. 330 actual).

- 5% increase from 1998 (2,651 to 2,785) in SMET underrepresented minority enrollment.

- Increase in Average GPA for Level 1



underrepresented students from 1998 level of 2.75 to 2.87.

Colorado Lt. Governor Attends Fall Steering Committee Meeting

On September 23, 1999, the LS CO-AMP Steering Committee Meeting was held at the CSU Denver Center in downtown Denver. We were especially pleased to have Lt. Governor Joe Rogers address the group. The Lt. Governor's presentation provided insight into the status of education in the State of Colorado, Colorado outreach programs and the Governor's Scholarship Program, as well as, the opportunity to field questions from the group. LS COAMP is proud to have the support of



Lt. Governor Joe Rogers fields questions during steering committee meeting.

Colorado's second highest-ranking office holder. The meeting also included presentations from organizations such as the General Services Administration Rocky Mountain Region (GSA), National Renewable Energy Laboratory (NREL), Women's Transportation Seminar, IBM and Colorado Space Grant Consortium. We also had the opportunity to hear from LS CO-AMP's site coordinators and representatives from the Jicarilla Apache Tribe, Southern Ute Indian Tribe and Ute Mountain Ute Tribe.

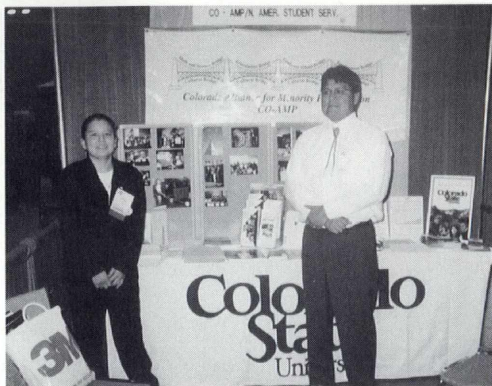
LS CO-AMP Staff Member and Student Reflects on 21st Annual American Indian Science and Engineering Society Conference

Emma Morgan, LS CO-AMP Staff Member and CSU Student

Over the past 20 years the annual National AISES Conferences has documented a process of growth. The organization's programs, chapters, and total membership have all increased steadily. Each year the National AISES Conference attracts the nation's brightest American Indian students, and professionals in the fields of science, engineering and technology. This year's

theme was entitled, "*Setting the Pace in Bridging Tradition & Technology*".

The 3-day event began with a dynamic speaker named Billy Mills (Lakota), 1964 Olympic Gold Medallist. The event included a Career Fair, panel discussions, talking circles, and workshops for students, teachers and professionals. The event was capped with a pow wow where all



Emma Morgan and Ty Smith at AISES Career Fair

attendees came together in celebration.

The theme "Setting the Pace in Bridging Tradition and Technology reflected

this year's conference. The conference helps build the Indian communities by educating its future leaders and preparing them to set the pace while honoring our traditions and using the technology to advance into the future. I have gained invaluable insights from this year's conference. I have built more leadership roles for my community and will share this worthwhile event within my community and encourage the young ones to go on and pursue college educations. I enjoyed the experience very much and I would like to thank LS CO-AMP, HP, CSU's Computer Science Department, and NASA for their hard work and for giving me the chance to represent my school and community at this successful event. Thanks again!

CSU Students Participate in Two Key Programs Within the College of Natural Sciences

Arlene Nededog, Director of Retention, CSU College of Natural Sciences

The College of Natural Sciences at Colorado State University in partnership with LS CO-AMP has students participate in two key programs, the Undergraduate Science Institute and the Students as Leaders in Science Assistantship. As of fall semester 1999, there are 43 students participating in the programs. Students are studying biology, biochemistry, chemistry, computer science, physics, psychology, and zoology.

The Undergraduate Science Institute focuses on providing personalized academic monitoring services, tutorial assistance, career planning and goal setting, and academic/personal enrichment information to participants. The goals behind these strategies are to assist students

with less than a 3.0 cumulative grade point average to remain in the science majors and improve their overall academic standing at Colorado State University.



CSU SLS Students Recognition Ceremony

The ultimate goal is for students to participate in the Students as Leaders in Science (SLS) Assistantship Program. SLS is an experiential learning program designed to supply students with opportunities and

experiences necessary to become competitors in the field of science before and after graduation. Students currently in the program work in a variety of lab settings such as computer science, physics and chemistry. This allows students the opportunity to expand their knowledge in their discipline under the direction of a faculty or industry member.

Students in both programs will begin the process of working with the USI and SLS coordinators and the Career Liaison for the College of Natural Sciences in developing summer internship opportunities. Highlights of both programs include the opportunity to network and engage with faculty in their areas of research and work, develop a support network of peers in the sciences, and develop professional skills needed for a successful career.

Programs Benefiting the Southern Ute Tribe

LaTitia Taylor, Director of Higher Education for the Southern Ute Tribe and LS CO-AMP Tribal Partner

The Southern Ute Indian Tribe provides an excellent Higher Education Program for its tribal members. Within the Department of Higher Education, there are currently four major programs:

1. Full and part time scholarships for Tribal Members, who have interests that may range from Associate degrees all the way to the doctorate level. Awards include 100% tuition, fees and books. Full-time scholars are also awarded living expenses.
2. Full-time Scholarships for Adult Occupation Certificates. Awards include 100% tuition, fees and books. Full-time scholars are also awarded living expenses, as well.
3. Distant Learning is a new program and is in its development stages. The Tribe has reached an agreement with the Southwest Indian Polytechnical Institute (SIPI). In this agreement the Southern Ute Tribe provides class space, teacher/coordinator and students while SIPI gives technical assistance and equipment such as the monitors and satellite.
4. BIA 638 contract - Adult Education. This program provides an avenue for Native Americans to obtain a GED.

Approximately 15% of our students are involved in various science programs and our drop out rate is at an incredible 5%.

LS CO-AMP Funds Undergraduate Research at CU-Boulder

Dave Aragon, CU-Boulder LS CO-AMP Site Coordinator and SEED Program Director

LS CO-AMP provided funding for CU-Boulder aerospace engineering students, Meagan Campos, a senior, and Joseph Fierro, a sophomore, to participate in undergraduate research projects under the advisement of Dr. George Morgenthaler, a CU-Boulder professor in the Aerospace Engineering Sciences Department. Funds allowed for a student stipend, research materials and supplies, and travel expenses to attend a professional conference.

Dr. Morgenthaler, known for his limitless energy and dedication to the sciences, included Meagan and Joe among his responsibilities as the co-chair of the Moon/Mars Exploration Committee of the International Academy of Astronautics (IAA). Dr. Morgenthaler used conclusions from Meagan and Joe's research in a final paper he presented at the 51st International IAF/IAA conference in Amsterdam, The Netherlands this past October.

Reflecting on her summer research experience Meagan comments, "The sort of work Dr. Morgenthaler does is best suited to my interests... I am excited about

doing qualitative research". Meagan worked on a feasibility study of venturing to Mars as well as an examination of the technique of terraforming – the process of transforming the atmosphere of Mars to make it more habitable for humans. Meagan presented her research findings at a LS AMP National Conference in Birmingham, AL this past August.

Over the fall semester, Joe investigated an alternate method for the in-space assembly of a large structure that could be used for the human exploration of Mars. "Dr. Morgenthaler gave me an opportunity to do exciting research in a field that is traditionally not open to students with my level of experience. With the experience I now have, numerous doors have opened up for me." Joe is planning to accompany Dr. Morgenthaler to an international conference in Albuquerque, New Mexico early in the spring semester.

Through valuable field-related experience under the watchful hand of a seasoned research professor, LS CO-AMP is helping CU-Boulder engineering undergraduate students develop their aptitude for research and graduate study.

LS CO-AMP to Collaborate with AISES and Lucent Technologies Foundation to Enhance Recruitment Activities

The American Indian Science & Engineering Society (AISES) organization, which is headquartered in Albuquerque, New Mexico, collaborated with LS CO-AMP to submit a proposal to the Lucent Technologies Foundation. The proposal entitled, "Math, Science, and Engineering Enrichment Program", was approved for the amount of \$375,000 for three years. The program will be designed to provide educational

enrichment in Math and Science for American Indian middle and high school students from two Native American Indian tribal communities located in southern Colorado - Southern Ute and Ute Mountain Ute Tribes. A corresponding professional teacher development program will also be implemented in local community schools to enhance and impact teaching of math and science. In addition, community interactive

(continued on page 4)

Letter from the Director



With the beginning of the new millennium, LS CO-AMP is operating in its fourth year in Colorado. We are so



proud of our achievements during this year, not to mention the enthusiasm of the Site Coordinators and their efforts to revise LS CO-AMP's WEB data. WEB AMP also includes data from two additions to the consortium: Adams State College and the University of Colorado at Colorado Springs.

Although our retention activities are

invaluable, we feel that LS CO-AMP needs to implement recruiting activities, as well as, continuing to focus on retention programs. To continue the increase in entering underrepresented freshman into the SMET disciplines for the next decade, we must implement more recruitment activities.

At each of the participating institutions, LS CO-AMP Site Coordinators hold faculty and/or key administrative positions, in addition to being the primary administrators of the LS CO-AMP activities for their institutions. Our Government Performance and Results Act (GPRA) Report illustrates the most successful achievement for this

year, an increase of fifty-three percent in SMET Baccalaureate Degrees awarded to underrepresented minorities from baseline.

The Lieutenant Governor, Joe Rogers, is very supportive of CO-AMP initiatives. LS CO-AMP will participate with the Lt. Governor in the Youth 2000 Conference this summer. The Lt. Governor will assist LS CO-AMP in gaining the visibility at the legislature level to ensure the sustainability and the institutionalization of LS CO-AMP programs and activities after the NSF fund expires.

We look forward to an exciting year. Happy Millennium!

Upcoming Events — Spring 2000

January 27	LS CO-AMP Strategic Planning Meeting at CU-Boulder
February 11	AISES Regional Conference at Fort Lewis College
February 12	Conference at Adams State College
March 22	Math, Science and Technology Day at CSU for 3 rd to 9 th graders (for information call 970/491-5722)
April 7	CSU El-Centro Awards Ceremony
April 9	CSU Inter-Tribal Dance Performance and Concert sponsored by Native American Student Services (for information contact NASS at 970/491-1332)
April 13	Steering Committee Meeting
July 27-30	LS CO-AMP Research Conference at Colorado State University

In Memoriam



LS CO-AMP members are saddened for the loss of Dr. Frank Dukepoo, one of the two Native Americans in the country with Ph.D.'s in genetics. He was very supportive to LS CO-AMP goals and extremely active with NIH, NSF and AISES programs.

He was a mentor, a role model and an inspiration to all minority students in the country. Our thoughts and prayers are with his family.

Colorado State
University

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Visit our Web site:

<http://amar.colostate.edu/~coamp>

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Computer Scientist Visits Adams State College to Share Models for Student Retention in SMET

Terry Uyeki, ASC LS CO-AMP Site Coordinator

More than 50 science, mathematics, and technology students and faculty attended a LS CO-AMP Seminar on October 29, 1999, to hear Dr. Ann Quiroz Gates, Assistant Professor of Computer Science at the University of Texas at El Paso, present "Keys to Success: Rewards of the Undergraduate Research Experience." Dr. Gates spoke about the specific challenges facing ethnic minority students majoring in a science, mathematics, engineering, and technology (SMET) disciplines.

Dr. Gates related her own personal path to a college degree to current challenges regarding students in the SMET educational pipeline. Her mother left school to support an ailing grandparent and later she became the first in her family to go to college, returning as a non-traditional student in her mid-thirties. She credited an undergraduate professor of hers, who encouraged her to continue into graduate school. In sharing her own story, she dispelled the following myths:

- Myth #1: You have to be in the top one percent of your class to get a scholarship.
- Myth #2: Professors are extraordinary and inaccessible.
- Myth #3: Only the elite go to graduate school. (Gates went back to school when she was 38 years old.)

Dr. Gates spoke of difficulties stemming from differences in gender and ethnic values and socialization, students' internalization of negative stereotypes (of being not "college material"), and the isolation occurring from the impact of prejudice. Later in the afternoon, Dr. Gates met with faculty and students for a roundtable discussion about effective models for persistence of minority students.



CU - Colorado Springs students wave to crowd during Festival of Lights Parade

University of Colorado at Colorado Springs Students Enter Float in Festival of Lights Parade

K.M. Rangaswamy, Associate Dean, UC-CS Site Coordinator

Colorado Springs held its annual Festival of Lights Parade on December 4, 1999 in 28-degree weather. Minority student organizations from the University of Colorado at Colorado Springs were proud to have a float among the 75 entries. The float, decorated in white lights, was entitled, "Diversity-Walking into the Light". Thousands of spectators watched along the 1.2 mile parade route. The Louis Stokes Colorado-Alliance for Minority Participation was among the sponsors of the float.

Recruitment, continued from pg. 3
math and science fairs will be held to develop community awareness of math and science education. This program will provide prospective LS CO-AMP students skills needed to pursue SMET majors and degrees. According to LS CO-AMP Director and PI, Omnia El Hakim, "Fort Lewis College faculty and AISES students will be the driving force for the implementation of these activities".

People on the Move

Ms. La Titia Taylor is the new Director of Higher Education for the Southern Ute Tribe. Ms Taylor replaces Mr. Lee Briggs, who retired recently. We at LS CO-AMP congratulate Ms. Taylor and look forward to the continued collaboration with the Southern Ute Tribe. Enjoy your retirement Mr. Briggs.

Ms. Genevieve Jackson is the new Executive Director of Diné Education for the Navajo Nation. In addition, Ms. Roxanne Gorman, formerly with the Navajo Nation Rural Systemic Initiative, is now the Deputy Division Director for the Department of Education for the Navajo Nation. Congratulations Ms. Jackson and Ms. Gorman. We look forward to the continued partnership with the Navajo Nation.

Ms. Shelley Hartney, administrative assistant at Fort Lewis College and long time supporter of LS CO-AMP, recently announced she will retire in July 2000. We wish her only the best. Enjoy your retirement and thank-you.

LS CO-AMP Announces Summer Research Conference

Mark your calendars! LS CO-AMP is in the process of organizing a summer research conference July 27 to 30, 2000 to be held at Colorado State University. Tentative agenda includes a research poster presentation contest, as well as, keynote speaker Lieutenant Governor of Colorado, Joe Rogers. Additional information will be forthcoming soon.

USC Hosts Residential Summer Bridge Program

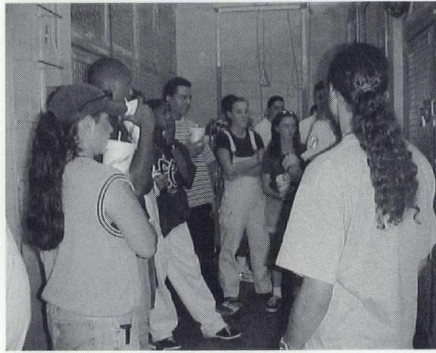
*Dr. Jane Fraser, USC Chair, Dept. of Engr.,
LS CO-AMP Site Coordinator*

From July 25 through July 30, 1999, the University of Southern Colorado hosted a one-week residential summer bridge program for 14 students. Dr. Jane M. Fraser organized the program, and was assisted by students Willie Moore and Darla Provencio. LS CO-AMP and the GTE Foundation provided funds for the program.

The academic core of the week was held each morning, with a pre-class, math, and post-class sessions. The students heard presentations from several science, engineering and technology majors and toured labs on campus, as well as, visiting the campus Writing Center. The director of the USC Career Center shared techniques on how to plan a career and how to start looking for a summer job now. Team building exercises centered around the Challenge or Ropes Course at USC. Students also visited the Pueblo Zoo, where they saw an animal lift and a lion squeeze cage both designed by USC students.

Some selected comments from daily journals that students kept to record his or her reactions to the program included:

- "That's probably the best thing this program shows me, how to work with others."
- "This program has made me more aware of the homework load in college. I have also had a real experience in time management and productive use of time. Still having lots of fun!!!"
- "This program was only 5 days long, but what I've learned here is more than I learned in my last 2 years of high school."
- "I feel like this program is pretty cool. I got to meet different people and was taken to new levels of awareness. Just when I thought I was invincible, I learned that even I need help sometimes."



USC Summer Bridge Students at Pueblo Zoo.

- "Today I woke up very late! I felt so embarrassed for what I did. I learned I have to get a very good alarm clock. Also I'm going to have to cut back on eating because I have been stuffing myself."
- "Well, this week has come to an end. I've enjoyed my stay. This was a good experience for me. Through the CO-AMP program I am better prepared for college."

Programs Focus on Supporting SMET Students at Front Range Community College

*Sharon Knight, FRCC LS CO-AMP
Site Coordinator*

The LS CO-AMP Program at Front Range Community College (FRCC) has been gearing up with a variety of activities to provide SMET students with academic and peer support. New initiatives included the establishment of a bi-monthly women's support group "Women in SUMETS". The group has had a number of speakers on pertinent academic and career issues.

"Math Wizard", a web site designed by a faculty mentor, helps students improve study habits, resolution of tough problems and general issues related to math. LS CO-AMP Administrator, Sharon Knight, states, "While the web site chat room and bulletin

LS CO-AMP Sending Students to Participate in Florida-Georgia LS AMP Expo 2000 Research Conference

LS CO-AMP's central office is providing support to send four students to Jacksonville, Florida, to present their research projects. The conference is being held January 28-30, 2000, with Florida Community College @ Jacksonville serving as the host institution. Participants include: Nashonna Kendal (Computer Science major from CU-Colorado Springs), Elizabeth Bischoff (Electrical engineering major from CU-Colorado Springs), Dean Santistevan (Bioresource engineering major from CSU) and Raul Victor (Bioresource engineering major from CSU). Valerie Gallegos, CSU Women and Minority Engineering Program, will accompany the students to Jacksonville.

board was just started, we think it will be extremely beneficial to SMET students. We are pleased to have committed faculty trying innovative methods to provide extra support to SMET students".

The program at FRCC has also helped host other activities such as a career panel discussion, diversity summit, workshop sessions on interview techniques, study skills, test anxiety, stress management, scholarship application, and how to work effectively with a faculty mentor. Program coordinator, Julie Voss reports "The program has been going phenomenally well. We are excited to see the number of students benefiting from the program increase as we establish a history for support and academic success."