



LS CO-AMP COMMENTARY

Winter 2005-2006

Special points of interest:

- Coming Events
- Two New Faces at CSU CO-AMP
- Conferences help to get the word out
- Recognition and Appreciation are a big deal
- Summer Camps
- Site Coordinators

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CO-AMP ACTIVITIES BENEFIT TRINIDAD STATE JUNIOR COLLEGE STUDENTS

Trinidad State Junior College (TSJC) is currently conducting the Biology/Natural Resources Research Internship Program, making it possible for biology and natural resource students to perform supervised scientific laboratory and field research. This unique experience for community college students focuses on two very important areas of research: *The Bighorn Sheep Lung Worm Problem* and *The Decline in the Populations of the Rare Canadian River Spiny Aster in Colorado*. These Research Internships were initially instituted and totally funded through the National Science Foundation—Louis Stokes Colorado Alliance for Minority Participation (LS CO-AMP) Program. TSJC expanded the program through additional funding from the Colorado Division of Wildlife (CDOW) and other institutional resources.

This program has proven to be a very good retention tool by providing TSJC students with hands-on research experience and the opportunity to travel to conferences to present original research. This year's interns include Chris Blocker, Breanne Smith, Hassan Taha, and Natasia Gyrman. All participants are encouraged to continue their



Chris Blocker, TSJC Research Intern, uses an inverted Nikon microscope to view and photograph parasitic lungworms of bighorn sheep.

Research at a four year institution. A former TSJC student is now finishing a Master's Thesis that incorporates research begun as a LS CO-AMP Research Intern at TSJC.

The TSJC science/technology/ engineering/ math tutorial program is also partially funded by LS CO-AMP funds. The tutorial program makes it possible for students who are having difficulty in particular

(See *Trinidad State* on pg. 3)

CO-AMP Students Pay Tribute to Their Professors at CU-Boulder

“She lifted my confidence.” “His energy and passion have made an impact on me and on every student, I’m sure.” “She made learning a fun experience, so it doesn’t feel like work.” These are just a few comments heard from the group of 40 University of Colorado (CU) students who gathered Nov. 11 to honor their professors at the Sixth Annual CU-LEAD Alliance Faculty Appreciation Luncheon.

Christine Yoshinaga-Itano, Vice Provost and Associate Vice Chancellor for Diversity and Equity, addressed the audience and acknowledged the success of the CU-LEAD Alliance programs, citing their nationally recognized retention and graduation rates for students of color. Michel Lesoinne, Assistant Professor in Aerospace Engineering, emphasized how important and rewarding student-teacher relationships are to him and to others as well. Lesoinne is a past Faculty Appreciation Award recipient, nominated by CU Aerospace Engineering student Janice Denard.

(See Faculty Appreciation on p.8)



Michel Lesoinne, Janice Denard

Inspiration from Adams State

Adams State College alumna, Shelly Grandell '04, and former participant of CO-AMP spent last summer pursuing her passion for geology. She worked on a research project with Dr. Dennis Harry in the Department of Geosciences at Colorado State University. Their research was on Geodynamic Modeling and Analysis of the Iberia-Newfoundland Non-Volcanic Rifted Continental Margins.

Grandell's internship was funded through the McNair Scholars Program, one of the programs associated with the Louis Stokes Colorado Alliance for

Minority Participation (CO-AMP)

Grandell applied last year for the internship. She said, “It is highly competitive. I wrote letters of interest and sent three letters of recommendation, too. It is kind of like applying for graduate school, except they pay you if you are accepted.”

She credits Mike Garcia, Executive Director of TRIO/Coordinator of CO-AMP, for getting into the program. “Mike Garcia introduced me to the

McNair Scholars program. And he was the one who kept on the ball once the application was sent. He called Valerie Gallegos at

Colorado State University more than once inquiring about my application. I am very thankful to him; he was a huge part of why I had such an amazing opportunity.”

The McNair Scholars program sponsors college students in faculty-mentored research

(See Adams State on pg. 4)

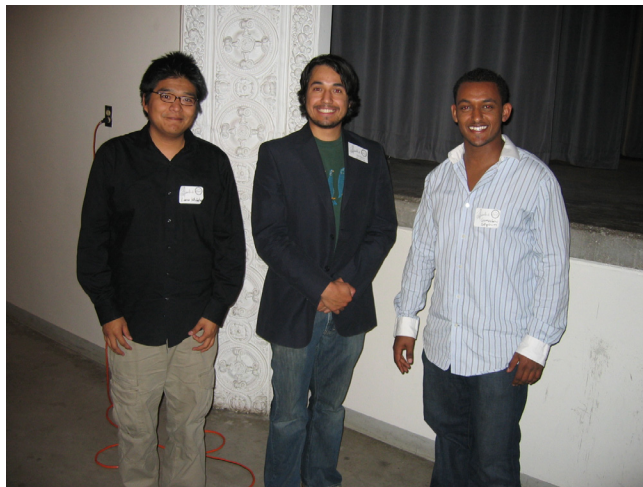
“It is highly competitive. It is kind of like applying for graduate school, except they pay you if you are accepted.”

Trinidad State (from pg. 1)

classes to obtain the help they need. LS CO-AMP–eligible students also receive advising and career counseling.

Considering the recent severe cuts in state funding of higher education, collaboration among grants may be the key to success for deserving rural and minority students. This approach is definitely working for TSJC students.

Metro's Fall Recognition Ceremony



Metropolitan State College of Denver's CO-AMP Program held its annual Fall Recognition Ceremony Thursday, November 10th; with over 100 CO-AMP students, family members and MSCD faculty attending.

The Fall and Spring Recognition ceremonies gave the student members of CO-AMP a chance to meet and network with each other and the faculty mentors. Our Recognition ceremony began with a delectable catered dinner and a welcoming statement from Dr. Omnia El-Hakim, the Principle Investigator for the AMP programs in Colorado. Dr. Larry S. Johnson, the Site Coordinator for Metropolitan State College of Denver, introduced our keynote speaker, Dr. Rafael Moreno, who is an Assistant Professor of Geography for University of Colorado at Denver. He addressed "Sustainability

A new face at CO-AMP . . .



Cheri Christensen has assumed the position of Office Manager for CO-AMP on the CSU Campus. "I love it here!" she exclaims. "I have the opportunity to make a difference to people, to help people achieve their dreams."

Cheri's experience includes teaching business education in public and private JHS, HS, and Post-secondary school, office support and management, and co-owner of a big-ticket small business.

After hours, you may find Cheri with her family, friends, dogs, or crewing for a hot air balloon—her favorite hobby!

of Global Systems."

All student members who demonstrated progress toward their degree were recognized for their hard work and awarded a monetary stipend. Also recognized were Alice Thurmond, who earned her Computer Information Systems degree this semester; Joseph Pitluck, who shared his experiences with the GEMS (Graduate Experience for Minority Students) program; and Lance Whitehair, who recently took first place in the undergraduate students poster contest at the American Indian Physicians Annual Meeting in Washington, DC.

Both Joe and Lance were honored to be chosen for participation in last summer's programs at the University of Colorado Health Sciences Center: Lance at the Cancer Center Undergraduate Fellowship Program and Joe at the School of Pharmacy's research project.

There were more accomplishments made by our students than we had time to recognize, and we congratulate all of our CO-AMP students for their dedication to success in higher education.

Adams State (from pg. 2)

projects, seminars on preparation for and application to graduate study, visits to graduate programs, research reports and presentations, summer internships, GRE training, assistance with graduate applications and financial aid, outreach about graduate education to rural Colorado, student presentation of research, and attendance at national and regional meetings.

“I left school at age 16, and passed my GED. I started college immediately, but it wasn’t the right time.”

CO-AMP is an innovative consortium of fourteen community colleges and four-year institutions, and four Native American tribes in Colorado and the Four Corners region. The Alliance's mission is to double the number of historically and currently under-represented American Indian, African American, and Hispanic students earning bachelor's degrees in Science, Technology, Engineering, and Mathematics.

The internship was intense and Grandell needed to learn the Unix System before she could begin. “I had to get more in-depth and use the Unix System. It was insane. I had a week and a half to learn. The primary foci of this project were the evolution, formation and characteristics of non-volcanic rifted continental margins of the North Atlantic. She said, “We modeled the breaking apart of the plates. The fact that they are non-volcanic is very rare. We were trying to match the

mantle and crystal weaknesses. My mentor, Dr. Harry, then gave a presentation on our research in Switzerland. And last August I had the opportunity to present my research at UC Berkeley and visit Stanford.”

Although she now speaks of her internship with enthusiasm, geology wasn't Grandell's first interest. From an early age she has known college was in the future, it just took a few years to become a reality. “I left school at age 16, and passed my GED. I started college immediately, but it wasn't the right time. Instead I ended up going to the police academy. My first job was with Adams State College Public Safety, I stayed there three years.”

Grandell took advantage of the opportunity for employees of ASC eligibility for tuition waivers, “I started as a major in criminology, but after taking a required science class, I fell in love with geology and immediately changed my major.”

Professors in the School of Science, Mathematics and Technology also were influential in Grandell's major choice. She said, “Dr. Randy Emmons (professor of physics) and Dr. Rob Benson (professor of geology) have always been so supportive. Since I didn't complete high school, I could have had an inferiority complex. But those two wouldn't let me, I knew I could do it, because they said, ‘you can do it.’”

Grandell's future plans include receiving her Ph.D. in geology. Shelly will begin her graduate work on her Masters at Colorado State University in January 2006.

Being a mother and wife isn't going to interfere with her future goals of teaching or working for NASA or the USGS. “One day I'll get there,” she added.



**2005 Summer Camp
at CSU**

**Rocky Mountain
Middle School Math
Science Partnership**

(RM-MSMSP)

National AISES Conference

By Sarah Wachacha, Fort Lewis College



“ . . . placed me in a new learning setting that helped me to mature as both a student and as a future professional.”

I recently attended the American Indian Science and Engineering Society's (AISES) 27th Annual National Conference in Charlotte, North Carolina. Fort Lewis College had eleven students in attendance this year. The conference theme was Pathways to Stronger Communities and offered a wide array of school and business opportunities. I had a great experience at the conference this year as a student hoping to attend medical school. I was able to talk first-hand to many of the medical schools I am interested in applying to, and was able to attain information on several schools that I had not previously considered. Because I was able to personally meet with school recruiters, I have now added new schools with individual contact information to my list.

Contacting specific individuals at the schools will be an invaluable resource as I apply and visit these institutions.

I attended this year's conference not only as a student but as a presenter as well. Over the summer I did research on emphysema at Harvard Medical School. At the undergraduate student seminar sessions, I gave an oral presentation on my research that allowed me not only to share what I had learned over the summer, but placed me in a new learning setting that helped me to mature as both a student and as a future professional.

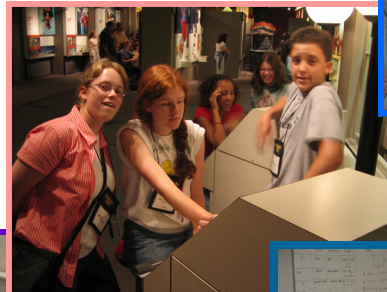




Colorado School of Mines Minority Engineering Program welcomed its largest freshman class in the University's history. 8 Native Americans, 11 African Americans, 39 Asian Americans and 57 Latino men and women make up CSM's first year student population. Minority students now total 436, which is 14% of the growing undergraduate student population.



2005 RM-MSMSP CSU Summer Camp



Coming Events in Colorado AMPS

February 23-24 Fort Lewis College
AISES Regional Conf

RM-MSMSP & Other Summer Camps:

June 5-16	Metro MS (MSP)
June 12-23	FLC MS (MSP)
June 18-30	FLC HS (MSP)
June 18-30	CSU HS (MSP)
June 19-30	Metro MS
June 25-July 21	CSU HS (Jets-Unite)
July 9-21	CSU MS (MSP)
July 10-21	Metro MS
July 10-28	Metro HS
July 24-Aug. 4	Metro MS

November 2-4 AISES National
Conference

Another new face at CO-AMP . . .

We would like to welcome Margi Cech to the CO-AMP team at Colorado State University. Margi will provide financial oversight for the CO-AMP project and other related Diversity Initiatives. She comes to us from CSU's Department of Atmospheric Science, where she spent 7 years managing the business activities of the Radar Meteorology research group. She has an MBA from CSU, and additional background in program development and evaluation, technical writing and training. She is an asset to our team. Margi's commitment, passion and enthusiastic support to underrepresented students will add value to all of our programs.



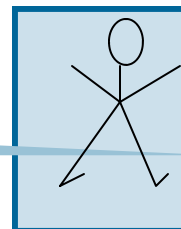


5th Annual H. S. Programming Contest at UCCS

On November 11, 2005, students gathered at the University of Colorado at Colorado Springs for the 5th Annual High School Programming Contest, sponsored by the National Society of Black Engineers (NSBE), the Association of Math, Engineering, and Science Students, and the College of Engineering and Applied Science. These experienced coders from the Colorado Springs region competed to create a simple hangman game computer program. The program had to allow a user to guess a letter in the word. It would then place the correct letter in the proper space within the word, or notify the user of an incorrect or previously used letter. The program would 'penalize' the user by completing a portion of the hangman in the event of an incorrect letter.

The game seems simple enough when working on paper, but it becomes a complex task when coding a program. Bonuses were given to students for 'extras' including: adding ASCII art, animation of ASCII art, adding randomly selected words, a menu screen, allowing solving by entering a whole word, and multiplayer options. Contest solutions included numerical calculations, logical decisions, console I/O, and formatted output. Students competed in teams of four and everyone left the competition with enhanced skills and a new outlook on the challenges of computer programming.

Congratulations to Nichole Bogner, James Powell, Kelli Koccerha, and Thomas Lightbody of Calhan High School for their first place finish. Special thanks to Cayle Stickler, Patrick Wright, Ryan Freckleton and Tiffany Albright for designing the program, marketing the contest to local high schools, running the contest and judging the programs.





Faculty Appreciation (from pg. 2)

A member of the Multicultural Engineering Program and the Ronald E. McNair Post-baccalaureate Achievement Program, Denard did undergraduate research with Lesoinne on the wing structure of micro air vehicles. "Doing undergraduate research has been an interesting, challenging, but positive experience," she said. "What makes research different from classroom assignments is that you have to answer a question in which it is up to you to go out and find all of the information and resources, including talking with professionals in the field."

During the luncheon, each student presented the unique experiences they shared with the faculty member they invited to the luncheon, expressing appreciation for the inspiration and motivation their instructors impart during courses, labs, and even outside the classroom. Each faculty member was presented with a certificate of appreciation and a gift bearing the words "**because no one does it alone.**"

Funding for the luncheon was provided by the Louis Stokes Colorado Alliance for Minority Participation, the Minority Arts and Sciences Program, the Multicultural Engineering Program, Agilent Technologies, the Office of Diversity and Equity, and numerous other student diversity programs on the CU-Boulder campus.



RM-MSMSP

The Rocky Mountain — Middle School Math Science Partnership Summer Camps

By Gary Metzger

This new National Science Foundation Grant, lead by the University of Colorado at Denver, funded three Summer Camps in the Summer of 2005. Metro State offered half-day Summer Camps, while Fort Lewis College and Colorado State University had 2-week, residential Summer Camps.

Twenty middle school students (10 girls and 10 boys) and four counselors participated in the 2005 summer camp and lived in the CSU dorms. CSU faculty taught courses in Plant Sciences, Motorsports, Math, Biotechnology, and Chemistry. The students particularly enjoyed The Little Shop of Physics, extracting DNA from kiwi fruit in the Biotechnology class and developing and presenting PowerPoint presentations from their research. Field trips to the Little Thompson Observatory, the CSU Animal Lab, the Larimer County Recycling Center, CHILL Radar, and the Denver Museum of Nature and Science linked classroom learning to real-life application. "Down time" included concerts in the park, movies, bowling, swimming, and a trip to Crystal Rapid Water Park.

The course work and resident life provided students a glimpse of what the University experience is all about. We are looking forward to seeing the kids at Camp in 2006!

Please contact Gary at gmetzger@engr.colostate.edu or 970-491-2898 if you know of someone who may be interested in attending. Students from partnering school districts and the local Fort Collins and surrounding areas are encouraged to apply. We are also looking for counselors who are enthusiastic about the STEM disciplines, kids, and staying with the students 24/7 for 2 weeks.

Dates for the 2006 Summer Camps are:

CSU High School: June 18 - 30

CSU Middle School: July 9 - 21

FLC High School: June 18 - 30

FLC Middle School: June 12 - 23

Metro High School: July 10 - 28

Metro MS: June 5 - 16 (MSP);

June 19 - 30; July 10 - 21;

July 24 - August 4

The Latino Achievement in STEM Conference

The Latino Achievement in Science, Technology, Engineering, and Mathematics (STEM) Conference was held in Princeton, New Jersey, November 20-22, 2005.

The Conference discussed 3 major goals: 1) Learn about challenges, practices, policies, research, and advocacy for Latino achievement at the national, state, and institutional levels; 2) Improve preparation of students for college access and to enhance the Latino retention rate in STEM majors; and, 3) Increase the number of Latinos pursuing Graduate School programs in STEM. These goals are consistent with our CO-AMP goals and objectives.

Important topics were discussed among a wide variety of innovative leaders who participated in the conference, including educators, researchers, policy-makers, legislatures, advocates who work in elementary, secondary, and higher education, foundations, governmental agencies, and state and local education boards and commissions.

The Honorable Ruben Hinojosa, US Congressman from Texas, presented invaluable perspectives, strategies, and opportunities to educate Latinos and matriculate them to Graduate School.

Colorado State University representatives who attended the conference were Dr. Rick Miranda,

Dean of Natural Sciences, and Dr. Omnia El-Hakim, Assistant Dean for Diversity, College of Engineering.

Over the last few years, our CO-AMP statistics illustrate that out of the 400 CO-AMP undergraduate STEM students obtaining their Bachelor's Degree, approximately 250 of these are Hispanic. We can focus our efforts to attract more Latinos, specifically from the Pueblo area and from San Luis Valley in Colorado, to reach them at earlier ages to expose them to the fun and exciting opportunities



available in engineering and sciences.

For more information about this conference and potential events, visit the website: <http://www.ets.org>

“... CO-AMP statistics illustrate that out of the 400 CO-AMP undergraduate STEM students obtaining their Bachelor's Degree, approximately 250 of these are Hispanic.”

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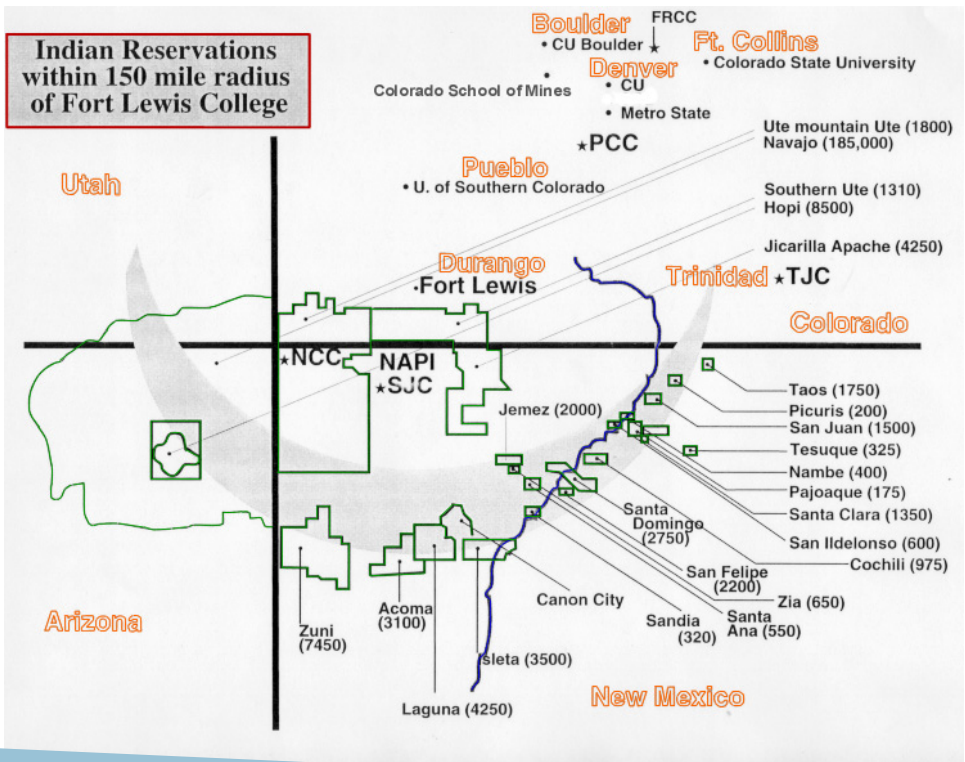
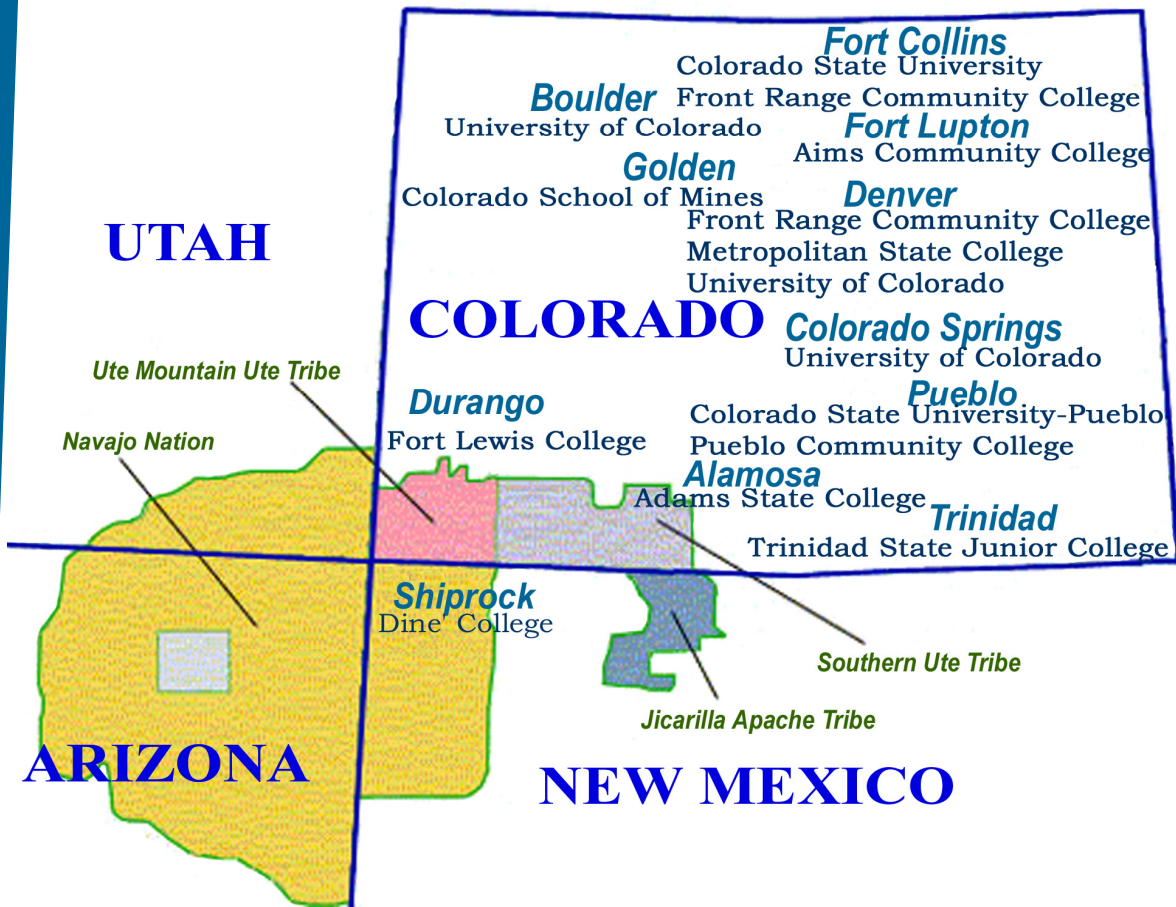
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Louis Stokes Colorado Alliance for Minority Participation

Serving Colorado and the Four Corners Region



From the Director . . .

I would like to take this opportunity to thank all of you for your hard work and sincere commitment over the last 10 years of CO-AMP activities. Your passion and dedication to make a difference for the underrepresented students in the state of Colorado has increased the number of STEM (Science, Technology, Engineering, and Mathematics) students graduating with a Bachelor's Degree from approximately 200 to 400. Our enrollment has increased from 1,922 to 2,240.

We have worked hard to build a strong infrastructure within the state of Colorado at each of the 14 partner institutions of higher

education. Many other programs have been created and built upon the CO-AMP foundation. These programs include K-12 outreach and education programs, engineering/research center programs, Alliance for Graduate Education and the Professoriate (AGEP) and other graduate opportunities in the STEM fields. We submitted the Phase III Proposal in October, 2005, to continue another successful 5 year implementation of these worthwhile activities. We are looking forward to working together during CO-AMP Phase III, which will bring excitement, growth, and opportunities.



Dr. Omnia El-Hakim, Ph.D.
Assistant Dean for Diversity
Principal Investigator, CO-AMP

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