



PHASE

A Newsletter of Skaggs Center Internships

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October 2009

CU is host to MARK(MESA Advisor Retreat and Kick-off)



Screen shot during the 2009 MESA Advisor Retreat and Kick-Off (MARK) held on September 11th and 12th in Boulder. The MARK was hosted by Colorado MESA, St. Vrain Valley MESA and the University of Colorado at Boulder BOLD Center. Workshops were held at the CU College of Engineering and Applied Sciences - Discovery Learning Center (DLC).

As a follow up to the SACNAS (Society for the Advancement of Chicanos/Hispanics and Native Americans in Science) Regional Meeting last month, Ann Thorne made arrangements to attend the MARK program to link up the SACNAS students at CSU with the MESA program. As it turned out, one of the main presenters was Melanie Hass, the CSU MESA Center Director. Ann Thorne and Tony Tafoya had suggested that SACNAS students at CSU form an alliance with MESA to recruit members interested in STEM (Science, Technology, Engineering, Mathematics) careers. They also suggested that an alliance could also be formed with Image de Denver to assist in job placement, especially jobs during the summer months. Joe Davalos,

the Vice Chair of National Image routinely sends out numerous job listings for federal, state and local governments. It became apparent that by encouraging dialogue, all three organizations could profit and further the cause of developing more students to consider STEM careers.



Melanie Hass, CSU MESA Center Director (picture at left) along with Gloria Nelson, MESA Executive Director, and Gale Day, MESA Outreach Coordinator gave presentations to new and returning MESA advisors. A summary of their presentations follows.

The mission of MESA is to increase the number of underrepresented minorities and women students entering college and seeking professions related to mathematics, science, engineering and technology.

The target students are underrepresented in Science, Technology, Engineering and Math (STEM) careers. They are typically Black, Hispanic, Native American, Female, economically disadvantaged, and at risk; they are bright, but working below capacity; they need motivation and encouragement; and they will probably not respond to typical recruiting methods.

MESA is designed to: Prepare, Motivate, Provide Support Systems, and Raise Expectations.

In recruiting members, one must be proactive in recruiting minority students:

- ◆ Acquire a list of former students from a previous advisor. Contact students at the beginning of the year.
- ◆ Schedule meetings for the earliest possible date. Focus on:
 - Recruiting target students
 - Agenda for the semester
- ◆ Schedule meetings with math and science teachers to identify and recruit potential students who are Hispanic, African American and Native American. Follow up with a written invitation or personal phone call. Veteran MESA members can help.
- ◆ First recruitment meeting should include hand-out to new recruits inviting parents to attend a parent orientation meeting within the next two to four weeks.

MESA is a program that works.

- ◆ 90% of graduating seniors go to college.
- ◆ 75% - 80% of the students that indicated a major, enrolled in math/science based majors.
- ◆ Almost 80% of MESA students are from underrepresented groups, including minority males and females; about 50% are from ethnic groups underrepresented in STEM careers.
- ◆ Approximately 85% of MESA students come from low and moderate income families.

MESA advisors are the key to the program's success.

- ◆ Over 250 advisors in 2008-09 supporting over 3,500 students.
- ◆ Provide academic support.
- ◆ Provide inquiry-based activities that engage students in math, science, and engineering activities.

- ◆ Leadership training.

Parents understand how to help their children be successful in school by:

- ◆ Encouraging academic excellence.
- ◆ Encouraging students to attend school regularly.
- ◆ Attending MESA events.
- ◆ Providing moral support.

In Colorado the MESA program is under the Colorado Minority Engineering Association (CMEA). In its 29 years of activity the CMEA/MESA enrollment has grown from 30 students in three schools to over 3000 students in 154 schools. Expanding from Denver outward, MESA is now along the Front Range and has a presence in the Four Corners, San Luis Valley and Grand Junction areas. Student demographics show the following:

Total Students Served by MESA	3,507
Elementary School (K-5)	1,002
Middle School ((6-8)	1,596
High School (9-12)	909
Advisors	270

Student Demographics

African American	6.0%
Anglo American	45.1%
Asian American or Pacific Islander	5.6%
Hispanic/Latino	40.1%
Native American	3.4%

Colorado MESA is one of eight states that make up MESA USA. They include: Arizona, California, Maryland, New Mexico, Oregon, Utah, and Washington.



Karen Hunter, St. Vrain MESA Coordinator, focused on the exhibitor session which was open to all MESA advisors. This was a forum for organizations from around the metropolitan area to highlight their programs and outline their availability to visit during the academic year. Exhibitor tables provided advisors an opportunity to quickly and easily become acquainted with local resources including networking, scheduling field trips, and site visits. Karen can be reached at: khmesa@comcast.net or at 720.423.4870.

Getting involved with MESA is easy for individuals, industry, parents, government and alumni. The MESA web page www.cmesa.org lists various programs on how you can invest your free time and give back to the community. Community involvement and support makes a real difference to MESA students around the state. Some ways to get involved include:

Volunteer/Judge a MESA Engineering Challenge

Colorado MESA's engineering design challenges provide students, parents, advisors and supporters with a series of hands-on, engineering, science and mathematics related challenges, exhibits and presentations.

Mentor Program

The mentor program provides an opportunity for MESA students and advisors to interact with mentors (university students, retired engineers and engineering professionals) in the fields of mathematics, engineering, science and technology. Mentors provide leadership skills and serve as role models for students, assist MESA advisors with administering activities and developing projects for the local, statewide, and national competitions.

Site Field Trips

One of the components to the MESA model is to expose students to the field of engineering through site field trips to local firms. Field experiences allow students to interact with engineers, mathematicians, and scientists in their professional environments and experience first hand the professional world of STEM related careers.

Internships

An internship offers students the opportunity to gain experience and insight into an area, position or engineering, mathematics and science based industry under the supervision of an experienced professional. The internship experience can be full or part time and can occur at any time of the year.

Financial Support

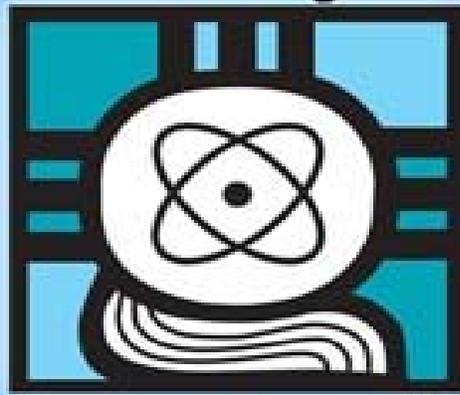
Provide funding for field trips, materials, supplies, and equipment, registration fees for design challenges.

So there you have it, a brief description of the MESA program. Earlier some suggestions were put forth for better communication among the various players interested in STEM education. It is a natural pipeline starting with MESA where parents and the business and education community can introduce students to STEM careers. This is followed by students in college joining organizations like SACNAS which stresses college and graduate education. Followed by organizations like Image de Denver to help locate jobs and summer internships.

SCENES FROM THE SACNAS ROCKY MOUNTAIN REGIONAL MEETING AUGUST 28-29, 2009, DENVER, COLORADO

The Society for the Advancement of Chicanos and Native Americans in Science (SACNAS) meeting offered the following opportunities for college and high school students in the Rocky Mountain states: Networking, STEM Career Exploration, Conversations with Scientists, Leadership Development, Research Ethics, Graduate School Information, and Student Research Presentations.

SACNAS Rocky Mountain Regional Meeting



August 28-29, 2009

Denver, Colorado



Sara Neys, Advisor, School of Biomedical Engineering, Colorado State University.



Ann Thorne, NOAA/ESRL Student Coordinator, ready to talk to SACNAS students and faculty.

The Objectives of the ESRL Intern Program

- A. To seek a broad development and expansion of internship opportunities for high school, college and graduate students and high school teachers.
- B. To assist and encourage NOAA organizations in establishing goals and identifying the best possible sources for the recruitment, employment, training and advancement of student Interns.
- C. To encourage and actively support the promotion and advancement of Interns already employed.
- D. To analyze and determine the educational and professional needs of students seeking entry and advancement in employment; and, whenever possible, provide appropriate training and counseling services to meet these needs.
- E. To establish and continually upgrade a broad range of contact with supervisors and Interns across the country via personal visits, telephone calls, e-mails, and periodic newsletters.
- F. To respond to the reasonable requests from non-NOAA groups for student referrals when their objectives are supportable and similar to the ESRL PHASE program.
- G. To enhance the promotion of student excellence, pride, and camaraderie through organized and regular social gatherings which will serve to bind students together.
- H. To provide a forum for major research issues of local and national significance so that students may be better informed and may express their views through seminar presentations before their peers and supervisors.

Key Advisory Board Functions

The key functions performed by the PHASE Advisory Board include: **Advocacy on Employment and Education Issues**, **Membership and Outreach**, and **Consultation with Students and Supervisors**. The following is a brief description of each function:

Advocacy on Employment and Education Issues

The advocacy function is performed when advisory board members take a pro-active role in seeing that an employment related issue is addressed by the appropriate community, education or government organization. This function typically involves the following: assisting students and parents with local school issues, e.g. summer jobs, internships, grades and course requirements; informing the local community on student internship opportunities; and researching employment opportunities and various employment related topics such as housing, travel, and community demographics.

Membership and Outreach

The membership committee is charged with an ongoing program of recruiting and retaining members of the Advisory Board. This involves coordinating a yearly membership drive for new members. The outreach function is performed by going out into the community to explain NOAA internship programs and communicating the assistance that can be provided. Typically, this function involves attending meetings and briefings, networking with NOAA agency representatives, providing orientation briefings to newcomers, attending training sessions and education workshops - both as participants and presenters.

Consultation

Consultation services are typically private and are provided to students, parents and teachers who need explanations related to PHASE documents and procedures. This function typically involves mediating an issue at the lowest level before it escalates and assisting the ESRL Student Coordinator with employee issues.



***PHASE* is a publication
of the ESRL Student
Coordinator**

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PHASE seeks to inform
employees and students on
employment programs and
internships.

Editors: Tony Tafoya and
Ann Thorne

MISSION

The mission of the Practical Hands on Application to Science Education (PHASE) program is to have students benefit from a science intern program at a Federal facility.

The objectives of the program are (1) for laboratories to identify student projects that provide a learning environment and focus on practical hands-on activities; (2) to provide laboratories with profiles of students who have an interest in considering NOAA and science in general as a positive career choice; and (3) to inform students of career opportunities in NOAA.

For more information visit: PHASE@noaa.gov and esrl.noaa.gov/outreach/student_programs

Question for a Student

Did MESA help you with your decision to attend college, a major, college choice, and so on?

From a career and academic perspective MESA always had a positive impact. My most enjoyable aspect of MESA however, was the team building, team competitions, and field trips. Team-building exercises such as the egg drop and bridge building were remarkable. Attending the competitions and meeting other students with my similar background, culture, and science interest was invaluable. MESA involvement has had a positive impact on my education and my career choice.

Blake Alexander Hammond
Class of 2005
Wasson High School
Colorado Springs, CO

COLLABORATING ORGANIZATIONS

GOVERNMENT AGENCIES:

NOAA/OAR/ESRL
NOAA/NWS/SWPC
NOAA/NESDIS/NGDC
NIST
NTIA
Workforce Boulder County

HIGHER EDUCATION:

University of Colorado/CIRES
CU SORCE Program

COMMUNITY:

SACNAS
MESA
AISES
National Image, Inc.
Blacks-In-Government (BIG)

SCHOOL DISTRICTS:

Boulder Valley (BVSD)
St. Vrain Valley (SVVSD)



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Please add me to newsletter mailing list. (Please print or type.) Issue #10 2009

Name	
Home Address or School Address	
City, State, Zip Code	
Telephone and E-mail Address	

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