MESA NEWSLETTER

MESA Student Heads to Harvard to Present Research

My name is Deborah Dauda and I was invited to do a poster presentation in March 2, 2007 at the New England Science Symposium at Harvard University on my research, “Myostatin Effect on Body Composition and Muscle Physical Performance in Genetically Modified Mice.” This project was conducted at Charles R. Drew University of Medicine and Science Department of Biomedical Sciences under the principal investigator, Dr. Suzanne Porszasz-Reisz, to contribute to HIV research and to assess muscle atrophy, pulmonary diseases, and all other muscle wasting diseases. Myostatin (MST) is a negative regulator of skeletal muscle mass. It affects muscle function, fiber number and size. The purpose of this study was to determine the role of MST on muscle function and fiber composition during exercise in MST over-expressing transgenic (TG); this is done by increasing the number of copies of the gene or increasing the binding strength of the promoter region and MST knock out (KO) and by making gene inoperative in an organism. The two models (KO & TG) mouse were compared to age-matched wild-type (WT) controls. With the results, we established that MST has a significant effect on muscle structure and physical performance. TG animals pose more slow type muscle fiber which could explain their higher exercise capacity. MST KO has more fast type fiber and this fiber transition may result in the low exercise tolerance in these animals. Most of my travel expenses for this symposium were sponsored by the MESA program.

Research Experience: Get An Early Start!

MESA is an advocate of student participation in summer research experiences for undergraduates. Research is a paramount experience for mathematics, engineering, and science students, and therefore, should be an experience approached early in their education.

The MESA recent publication, the MESA Internship Handbook 2006-2007, contains 80 internship opportunities in math, engineering, and science-based fields from campuses throughout California and across the United States! In addition to the handbook, MESA frequently e-mails or posts flyers throughout the MESA Center that notify students of recent internship or scholarship opportunity publications available. Aside from research experience, these opportunities may provide a considerable stipend, a travel expense stipend, housing accommodations (program assistance may vary from campus to campus), and the opportunity to build a strong resume with research experience in your field!

As further encouragement of student participation in research, MESA offers two internship opportunities specifically designed for MESA students. One opportunity, the Basic and Advanced Science & Technology Academies of Research (BA STAR) program has two phases. The first phase involves student participation in a leadership conference that takes place in the spring semester; this activity can help develop student teamwork and leadership skills. The second phase includes student participation in an internship designed to provide experimental hands-on physics and A+ hardware—this can help students build and troubleshoot a computer!

MESA students that successfully complete the BA STAR program have the opportunity to take part in the Advanced Science & Technology Academies of Research (A-STAR) program the following year. This opportunity is more research based, and students are paired up with a faculty mentor who matches his/her research interests. MESA students will attend a formal research conference to present their research, and many students are given the opportunity to present their research findings during the fall semester MESA Open House. Last year’s A-STAR program was held at the University of California, Irvine.

MESA students receive support for any questions regarding the application process, assistance with developing a personal statement, resume, or can receive a letter of recommendation from the MESA program. MESA students should allow ample time to receive assistance from MESA staff (appointments are encouraged, but not mandatory). We encourage students to contact MESA at least two weeks in advance, or earlier for better support.
MESA Students Head to Colorado during Winter Break

Instead of being stagnant this winter break, several MESA students headed out to the cold weather in Denver, Colorado to show their spirit for success and development. The Society of Hispanic Professional Engineers National Technical Career Conference (SHPE NTCC) was held at the Colorado Convention Center in Denver, Colorado from January 10 through January 14. Each year SHPE NTCC offers students the opportunity to meet over 5,000 professionals from the engineering field, corporate representatives, and students from all over the country to help them become acquainted with the field of industry and various recruitment techniques.

This year, the MESA students attending this event were Elmer Berrios (mathematics major), Welbert Bonilla (pre-med major), Deborah Dauda (biology/international development major), Miguel Lima (electrical engineering major), Mayra Ochoa (mathematics major), Eric Olguin (biology major), and Daari Terrell (engineering major). Aside from being MESA students, the aforementioned students are also part of the Society of Hispanic Professional Engineers (SHPE) chapter at El Camino College. MESA sponsored the attendance of all seven MESA students for SHPE NTCC, which is indicative of the support offered for activities that promote leadership and networking development—these are crucial skills necessary as students pursue higher education and meet with the demands of a competitive job market.

How can participating in events like SHPE NTCC affect our students? One of the MESA/SHPE student participants, Elmer Berrios, comments that, “Other than the learning experience that takes place in the classroom, traveling and visiting other places is a learning experience in itself. For me personally, this was a great experience because I finally got to visit a town that was outside of California.” Other MESA/SHPE students, like Eric Olguin, remark that the experience at SHPE NTCC was “amazing because of the professionals that I spoke to, the new people that I met, and the new cultures that I encountered.” The idea behind sponsoring student participation in conferences is to expose students to new experiences outside of campus, and all of the participants expressed anticipation to leave the state, some for the first time. MESA/SHPE participants also illustrated their interest in the diverse resources available, particularly for students who are not engineering majors. For example, Daari Terrell comments that during the Career Exposition event representatives “were there giving out information about their companies and offering on-site interviews for those who had the experience and were looking for a job with them. Furthermore, there were big name universities here, giving out information to students in community colleges who may want to transfer to these universities in the future,” which was very helpful to some of our non-engineering majors.

Moreover, participants like Deborah Dauda took advantage of the opportunity to network throughout the event: “In addition to the workshops I attended, I volunteered at the registration booth where I was introduced to the vice president of SHPE and other executives. I also received a blue medium volunteer T-shirt and a raffle ticket, from which I later won a $100 gift certificate!” Another participant, Welbert Bonilla, briefly comments that “after each night the dinners held with all the speakers were great: Very classy and informative, with a lot of inspiring words from people who know the field of engineering. The speakers are a success in life, and I admired that they gave graduates and undergraduates a bit of their time.” During his free time, Eric Olguin also had the opportunity to savor great cuisine: “While I was in Denver, a local recommended a Chinese restaurant called City Chang. The food that entered my mouth at that restaurant must have been made by gods because my mouth would not stop watering.”

This is an opportunity MESA encourages to expose MESA students to new environments that can help guide their educational placement in the near future, and welcome new experiences.

2007 NTCC Participant Message

When I was asked by Arturo Hernandez, our MESA director, if I wanted to go to Denver, Colorado for a SHPE Conference, the first thing that came to my mind was snow, experience, and internships! Until I joined MESA, I was never given the opportunity or was even invited to travel out-of-state for college-related activities. I was exited, and as time passed, I anticipated that day to come. I wanted to go learn and experience what my career was about, and I did.

As we arrived to Colorado, it was like a dream come true—I didn’t even feel the cold weather that day. I was like a little girl touching and walking through the snow for the very first time. We then arrived to this beautiful hotel with more than thirty floors, and the convention center was conveniently across from it.

The day passed, and we woke up early the next morning to attend various workshops. In these workshops, we gained information and experience in different fields, such as financial managing, TI engineering, Toyota IT, and many more. The first workshop that I attended was about financial management, and I learned how to manage my finances, and how beneficial it is to have a savings account. Another workshop I attended was from Northrop Grumman. This workshop was about engineering and how they manage to handle difficult situations without getting desperate or wasting time; the Toyota IT workshop also discussed how they manage to reduce space and increase time. I also learned about the companies, what their requirements are, the experience they are looking for, and the kind of people they expect to work at their company. The last day at the Career Exposition seemed dedicated to each and every one of us who attended, and for me it was the most amazing experience I gained in my career field. We each had the opportunity to introduce ourselves to the company of interest and ask them about careers as well as internships. The company representatives were detailed in explaining their internship opportunities and the different types of careers that we can pursue. I walked through every company and asked the representatives questions about their company, offerings, and their requirements. This was the biggest, longest and most persuasive career fair that I’ve been to.

If I had the opportunity to attend another SHPE Conference I would definitely attend! I recommend this opportunity to all students that will soon be graduating as engineers or any math or science career. I personally gained a lot of experience, but I particularly learned that not only can I become a math teacher as I wish, but I can also become an engineer or even work as a mathematician in one of these great companies.

—Mayra Ochoa, MESA student
Good Grades Help MESA Students Earn Big $$

One of the incentives for MESA students to achieve success in their courses and increase participation in MESA resources is to reward the effort of each MESA student. MESA students that participate in at least 40% of a workshop for a course they are currently enrolled in, and receive a final grade of “B” or better for the course, may be eligible to receive a stipend. However, MESA students who participate at least 80% of a workshop for a course they are currently enrolled in, and receive a final grade of “B” or better, may be eligible to receive a higher stipend.

In Fall 2006, nine MESA students were eligible to receive a stipend for the workshops they attended. In total, MESA awarded $750 worth of stipends, just for that semester! At least two students received a stipend award for participation in more than one workshop.

This is a great opportunity for students to earn some extra cash just for receiving good grades and participating in one of the many resources MESA offers for student academic success. All nine students receiving stipends for Fall 2006 have demonstrated that it is possible to succeed, and MESA rewards their efforts!

Although the Academic Excellence Workshops are open to all students enrolled in a math or science class offered on campus as part of the workshop subject, stipends are only awarded to official MESA students.

Fall 2006 AEW Stipend Awards

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Chemistry 4

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MESA Leadership Retreat for Spring 2007

MESA recruited several MESA students to attend one of the MESA Leadership Retreats for Spring 2007. While the usual MESA Leadership Retreat takes place at Happy Valley Conference Center in Santa Cruz, California, this trip was scheduled for Indian Hills in San Diego, California. The trip generally takes place during the weekend to avoid conflicts with student schedules, and expenses are sponsored by the MESA program—this opportunity is restricted to MESA students only. This year’s retreat focused on the Strengths Quest activity, which helps determine student character strengths and weaknesses. Based on student results, the retreat focused on activities that can improve character weaknesses, and how to continue developing the skills that make a great leader and success. The MESA students participating in this event were: Eric Olguin (biology major), Welbert Bonilla (pre-med major), Melvin Martinez (engineering major), and David C. Lopez (electrical engineering major).

The policy of the El Camino Community College District is to provide an educational and employment environment in which no person shall be unlawfully denied full and equal access to, the benefits of, or be unlawfully subjected to, discrimination on the basis of ethnic group identification, national origin, religion, age, sex, race, color, ancestry, sexual orientation, physical or mental disability, or retaliation in any program or activity that is administered by, funded directly by, or that receives any financial assistance from the State Chancellor or Board of Governors of the California Community College.
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MESA Center Renovations

With the additional support of the El Camino College Foundation and Northrop Grumman, MESA has renovated a room adjacent to the MESA Center and expanded the space available for MESA student activity use. The availability of this area will provide a more accessible space for events (e.g. workshops, meetings, quiet study area, etc.) that take place throughout the semester to encourage MESA students to conveniently participate activities that will help promote growth and awareness of educational opportunities.

Fall 2006 PG&E Student Leadership Development Training

The Pacific Gas & Electric (PG & E) Conference was held in San Ramon, California during the Fall 2006 semester. MESA sponsored the attendance of four MESA students, which included David C. Lopez (electrical engineering major), Jose Torres (engineering major), Deborah Dauda (biology major), and Tamara Restrepo (biochemistry major). These students were able to meet representatives from several companies, and ask questions about requirements and resume expectations.

One of the participants, Tamara Restrepo, writes about her participation in this event:

“Attending the San Ramon Valley Conference Center for the PG&E Conference taught me that there are plenty of doors open in the industry field; however, it just takes a hand to help you get there. What this means is that opportunities come and go, but we have to be at the right place with the right people to make use of them. This is easily acquired by networking with other students, teachers, and even company workers, and the conference center seems like the right place to do so. Also, communicating with others is the key to develop projects and accomplish set goals, which is fundamental in the development of leadership skills. It was not easy to make time to assist to the conference, but it was worth it to have missed work and arrange my schedule in order to participate in the program. There is no doubt that the people at PG&E were welcoming and helpful during the days that MESA sponsored our attendance at this event. An educational environment of this sort makes me want to go back and pursue other activities that will help me experience what it feels like to be a leader. I highly recommend other MESA students to go to the conference in the future, it is fun and there will be new things to learn as well.”

MESA students interested in this activity should contact MESA staff to participate in future trips.

Committed to Success: A Message from the MESA Director

The El Camino College MESA program is one of the best resources on campus to help math, engineering, and science students successfully transfer to four-year universities. MESA accomplishes its commitment to student success through encouragement of student development in communication, leadership, and networking skills, particularly student participation in research and leadership experiences. Some of the tools that aid MESA in its endeavor for success is the use of Academic Excellence Workshops, conferences, counseling services, leadership retreats, tutoring, workshops on various topics and careers, mentorship, employment opportunities, and industry tours, among other resources.

MESA is proud to recognize its assistance to more than 460 students since its establishment on campus, and we look forward to continue serving more students pursuing math, engineering, and science-based fields of study throughout the Spring 2007 semester. The Spring 2007 semester is particularly important for MESA because it is a paramount semester in determining research, leadership, and transfer opportunities for various MESA student applicants. We look forward to continue working with new and continuing math and science faculty, staff, and students on campus, and as the MESA Center is renovated and equipped with more materials that will help our students continue to succeed in their academic pursuits, we hope to accomplish another semester filled with student success.

—Arturo Hernandez, MESA Director