

MESA Scholars make the grade

By Carole Brodsky The Daily Journal - Ukiah, CA
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James Acevedo, one of Mendocino College's Eisenhower Fellowship program recipients answers questions about the elevated atmospheric propulsion transportation system presentation he and his partner Sandra Arellano presented at the National Transportation Board in Washington DC last week. (Sarah Baldik/The Daily Journal)

Mendocino College students James Acevedo, Alexandra Gonzales, Veva Garcia, Fernando Calderon and Sandra Arellano returned last week from Washington, DC. The students, all members of Mendocino College's MESA program were recipients of fellowships granted by the Dwight David Eisenhower Transportation Fellowship Program (DDETFP), administered by the Federal Highway Administration's Department of Transportation Universities and Grants Program. It awards fellowships to students pursuing degrees in transportation-related disciplines with the goal of advancing the transportation workforce by attracting the brightest minds to the field through education, research, and workforce development.

This is the second year that Mendocino College students have participated in the program, according to MESA/Learning Center Director Margaret Sanchez. The fellowship recipients received cash awards of \$5,000 which defray travel costs and enabled them to attend the 92nd annual Transportation Research Board (TRB) meeting in Washington, DC. The TRB meeting was the high point of the trip and was an incredible opportunity for the students to present their abstracts to the world's experts within the transportation industry.

MESA-Math/Engineering/Science/Achievement is a statewide program for students from middle school to four-year universities. Mendocino College is one of only 30 community colleges offering MESA. "We are one of the smallest schools statewide to offer MESA," notes Sanchez. "MESA members are math or science majors who have a financial need and intend to transfer to a 4-year university," explains Sanchez.

For the second year, Stephen Ford from the Mendocino County Transportation Department acted as a mentor and consultant for the students and assisted them with their abstracts. "Deborah White, our math faculty representative provided editing support and assistance with the statistical data," Sanchez notes.

Fernando Calderon's abstract utilized distracted driving research in the North State Street area of Ukiah to determine if there was a correlation between fast food restaurant and accidents in that locality. "We addressed the fact that when people get their food, they drive differently. There was a difference in the

number of accidents in the North State portion of Ukiah- specifically where fast food restaurants were located," says Calderon.

Calderon and his partner Viva Garcia observed traffic in the North State area for 15 hours and noticed many distracted drivers exiting fast food establishments. "Evasive driving had to be performed by oncoming traffic, which is why more accidents don't occur. It was an eye-opener," says Calderon. According to the number of reported accidents in that area for the past 10 years, the majority occurred in the exact area where the restaurants are located. "Of course," says Calderon, "there are other factors, but from our observations, distracted driving had a big part to play," he notes.

Calderon had a great experience in Washington. "The trip provided networking and stepping stones to a great career in transportation. If transportation is what you are interested in, this is the place you want to go. We met entry-level personnel and some of the highest level people in transportation," he notes. Calderon is majoring in Cognitive Science.

James Acevedo had an opportunity to present his abstract at the TRB meeting. "Attending and presenting at the TRB was an eye-opening experience," he notes. "The conference showed me the breadth and scope of the transportation industry in the United States. I had the opportunity to engage with current and future leaders in the transportation industry," Acevedo continues.

The conference was scheduled for three days and the students kept a busy schedule. "We attended two panels featuring masters and doctoral students. They presented their research and were allowed to ask questions. I felt like I was getting a first look at new technology and ideas that may someday become part of our everyday life. We also attended an exhibition where companies from all over the country demonstrated and explained their latest transportation-related inventions and developments. The exhibition portion of the conference revealed many new career paths I had not yet considered as a future civil engineer," says Acevedo.

Acevedo and Arellano's abstract- "Choice of Parameters for an Elevated Atmospheric Propulsion Transportation System" researched the design of a high speed, inter-city passenger rail line utilizing a vacuum propulsion system. "Our research is being conducted with Flight Rail Corporation of Ukiah. We were introduced to this particular type of train when our MESA group took a field trip to Flight Rail to view a working 1/6-scale pilot model of the train. We met Flight Rail's owner, Max Schlienger, who agreed to work with us on our research project. We are still undergoing research and our next steps are to take measurements of power usage and acceleration in order to plot the efficiency of the pilot model," he concludes. Schlienger and John Reardon attended the TRB conference and supported Acevedo and Arellano with their postering following Schlienger's Flight Rail presentation.

Alle Gonzales created a solo abstract entitled, "The Relative effectiveness of Cleaning Procedures on Mendocino County Buses." Gonzales collected bacterial samples on buses, examined cleaning protocol, chemicals and products and tested them against other cleaning solutions.

"I met a lot of interesting people, got exposure to the transportation industry and discovered jobs that I never thought were out there," says Gonzales, who is hoping to pursue a career in the public health field.

To qualify for the fellowship, students completed faculty or industry-supervised, original research. They will have additional time to complete their projects in the spring and will be required to submit their final reports to the Transportation Research Board.