“There’s nothing I believe in more strongly than getting young people interested in science and engineering, for a better tomorrow, for all humankind.”

Bill Nye (The Science Guy)

Team Mojavaton is Florida Bound!

Skyler Ogden, a senior in the CU-Boulder/CMU Mechanical Engineering Partnership Program, is part of Team Mojavaton, a local robotics team who will be participating in the DARPA Robotics Challenge in Florida December 20-21. Engineering faculty members Francisco Castro and Scott Kessler have also been involved with the team’s efforts to design and build a robot that can assist first responders in the event of a national emergency. Meet “Buddy”

(Learn more by reading Skyler’s guest column on page 2.)

Tis the Season ...
... to apply for scholarships!!!

Check out the opportunities listed on page 3!

IMPORTANT DATES:

FINALS WEEK: December 9-12

SPRING 2014 Classes begin on Tuesday, January 21

ATTENTION SOPHOMORES:

If you plan to apply to the BSME program for the 2014-2015 academic year, please be sure to complete your CU-Boulder Transfer Application as soon as possible. If you have already turned in the initial Transfer Application, please plan to work on the Supplemental Application during winter break.

(Contact Harriet Carpenter, Administrative Assistant, at 970-248-1400 or hcarpenter@coloradomesa.edu if you have questions or need forms.)
Local Robotics Team in DARPA Challenge

Guest Column contributed by Skyler Ogden, senior in the BSME program

For the past 6 months I’ve been working with a local robotics team - Team Mojavaton - designing and building a robot to compete in an international competition in Florida this December and then again in December 2014. The robot, dubbed ‘Buddy”, has two arms and four legs (a quadruped). The team is entirely self-funded with the help of a few sponsors. The robot was built from scratch with the help of six Colorado Mesa University (CMU) students and four CMU professors. All work on the robot is entirely voluntary.

Our robot weighs a mere 40 pounds – a fraction of the weight of other robots in the competition that weigh as much as 330 pounds. The lightness of our robot was achieved through the use of precision machined aluminum and 3D printed ABS plastic. The use of 3D printing enabled us to design a unique planetary gear system that increased the torque at specific joints by almost a factor of 4.

Buddy is aided by an on-board FitPC computer with a solid state drive, a pressure sensor in each foot, an inertial measurement unit with 9 degrees of freedom and a LIDAR system for precision distance measurements. The robot’s hands are controlled by gloves with imbedded flex sensors. A leap motion sensor is used to position the robot’s arms. Oculus Rift integration for head control and stereoscopic visual user input is in the works.

The competition was organized by the Defense Advanced Research Projects Agency (DARPA). Robots are to be designed with the ability to perform repairs in a disaster environment filled with tools and walkways optimized for humans. The DARPA Robotics Challenge (DRC) will test the robots with traversing cinderblock rubble, navigating doorways, climbing ladders, turning valves, cutting through walls, and even driving a Polaris Off-Road vehicle.

Want more information?
Check out our website: www.mojavaton.org

Skyler Ogden,
CupricReki@gmail.com
The American Council of Engineering Companies of Colorado (ACEC/CO) Scholarship Committee will award **$30,000** in scholarships to students in engineering and surveying programs for the 2014-2015 school year. This amount will be divided between 9-10 students; the top award is $6,000; every awardee will receive at least $1,000. In addition, the top three awardees will be entered in the national ACEC scholarship program, and could receive an additional scholarship up to $11,500.

The competition is open to students pursuing Bachelor’s degrees in Colorado in Accreditation Board for Engineering Technology (ABET)-accredited engineering program and entering their junior, senior, or fifth year (in a five-year program) in the fall of 2014. To qualify, a student must be a U.S. citizen, with preference given to those who have an understanding of the consulting engineering profession. Students must be full time as determined by the school.

**Deadlines:** Applications must be postmarked by January 29, 2014 or delivered by 12 Noon, January 31, 2014 to the ACEC/CO office at 800 Grant Street, Suite 100, Denver, CO 80203. The top 9-10 applicants will be interviewed on Saturday morning, March 1, 2014, at our office. Local winners will be notified shortly after the interviews.

To find the application and recommendation forms, go to: http://acec-co.org/scholarships/

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**The SACCOMANNO HIGHER EDUCATION FOUNDATION** was created to promote the educational pursuits of students in financial need, thus, enabling them to improve their lives, the lives of their families, and those of their community.

This foundation encourages applications from individuals regardless of age and academic accomplishments. Scholarships are granted for use at accredited in-state or out-of-state colleges, universities, and vocational schools.

**Basis of Selection**
- Students must be residents of Mesa County, Colorado, or Carbon County, Utah.
- Students must prove financial need.

**Awards**
- TOTAL COST at any college/university or vocational institution includes tuition, reasonable allowances for books and fees, and room-and-board expenses.

Visit saccomannoed.org to download an application.
Application packets must be postmarked by April 1, 2014.

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SWE Scholarships support women pursuing ABET-accredited baccalaureate or graduate programs in preparation for careers in engineering, engineering technology and computer science in the United States and Mexico. In 2013, SWE disbursed over 200 new and renewed scholarships valued at $550,000.

Applicants complete one application and are considered for all scholarships for which they are eligible. Applications for sophomores through graduate students are available December 1 through February 15 at: www.swe.org (click on the Scholarships tab)

Log into MavZone and go to the Student Finance tab to access an all-in-one scholarship application for general and departmental scholarships. The scholarship application became available on December 1. **APPLICATION DEADLINE IS FEBRUARY 21.**
CU Partnership Criteria

There are two ways for current CMU students to be accepted into the CU BSME program:

1) Earn at least a 2.9 GPA after one year at CMU, taking a two-course sequence in math and science with A’s and B’s, or
2) Earn a 2.9 GPA or better after completing all required lower division coursework at CMU.

If you meet one of these criteria and you plan to apply for admission to the BSME program this academic year, we hope you’ve already turned in your CU Transfer Application. If not, please plan to do so before winter break.

Have you met your Advisor?

You are welcome to choose any faculty member to be your advisor. If you have met with a faculty member in the past, please stay with that faculty member as your advisor. However, for incoming students, your official advisor is assigned based on the first letter of your last name, as follows:

<table>
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<th>Last Name Begins With</th>
<th>Faculty Advisor:</th>
<th>Office:</th>
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<td>A-C</td>
<td>Dr. Nathan McNeill</td>
<td>AEC 206</td>
<td>248-1623</td>
<td><a href="mailto:ncmneill@coloradomesa.edu">ncmneill@coloradomesa.edu</a></td>
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<tr>
<td>D-H</td>
<td>Dr. Scott Bevill</td>
<td>AEC 212</td>
<td>248-1459</td>
<td><a href="mailto:sbevill@coloradomesa.edu">sbevill@coloradomesa.edu</a></td>
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<tr>
<td>I-L</td>
<td>Dr. Scott Kessler</td>
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<td>248-1673</td>
<td><a href="mailto:skessler@coloradomesa.edu">skessler@coloradomesa.edu</a></td>
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<tr>
<td>M-R</td>
<td>Dr. Farzad Taghaddosi</td>
<td>AEC 125</td>
<td>248-1678</td>
<td><a href="mailto:ftaghaddosi@coloradomesa.edu">ftaghaddosi@coloradomesa.edu</a></td>
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<tr>
<td>S-Z</td>
<td>Dr. Francisco Castro</td>
<td>AEC 215</td>
<td>248-1564</td>
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