ENJOY A FEW DAYS OF SUNSHINE!

BRAE 343 students have lab outside on a beautiful day where they are calculating scale measurements.
BRAE NEWS & EVENTS

All you Need to Know About Ag Showcase 2016

What?
Ag Showcase is an annual career fair put on by the AMB/NAMA club! Over 80 companies come from across the nation because they are interested in hiring CAFES students!

When?
Industry Social - 1/13 at the Madonna Inn from 7-9pm.
Ag Showcase - 1/14 in the Farm Shop, Building 9 from 9:30-1:30 pm.

Who?
Juniors and Seniors are encouraged to attend the industry social. Due to a small room capacity, freshman and sophomores are asked not to attend the social. However, all students are welcome at the Ag Showcase on Thursday!

Tips for a Successful Ag Showcase:

Be prepared: Read up on the companies that you are most interested in so that you sound more knowledgeable in conversation

Make a good first impression: Make sure you are in appropriate dress, have a clear introduction, and a firm handshake to impress them from the start

Engage: Make sure to ask questions and follow up questions to let them know you are interested and paying attention. Ask questions regarding their pamphlets, handouts, and business cards that are given to you

Bring your materials: Business cards and resumes allow the company to get in touch with you after Ag Showcase. It is important to have your name, phone number, and email included. Also, you can have a link to your LinkedIn account on your business card so they can see your “virtual resume”.

Follow up: Make sure you have their information so you can follow up with them. Sending a thank you card/email will show that you valued their time and will also help you stand out.

Good luck everyone!
**BRAE NEWS & EVENTS**

**Volunteer for Open House 2016!**

They need your help! First meeting is at 7:00-8:00 am Wednesday, January 13th in 10-206

Available Committees: Food, Farm Store, Students, Alumni Relations, Ag Pavilion, Community Service, Parents, Safety, BBQ

Additional Meeting Dates: 1/27, 2/17, 2/24, 3/9, 4/6, 4/13, 4/20

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**Engineers Without Borders Announcements**

India: Bldg 22-211, Monday from 7-9pm*
Malawi: Bldg 8-121, Monday from 7-9pm*
Nicaragua: Bldg 10-223, Monday from 7-9pm*
Thailand: Bldg 10-126, Monday from 7-9pm*
Local Projects: Bldg 22-312, Monday from 7-9pm*
IMPACT: Library 216M, Tuesday from 6-8pm
Fundraising: Library 216M, Friday from 1-2pm

*Monday Night Meetings: Please meet in 10-126 at 7pm for brief EWB announcements before going to your project team

IMPACT is EWB Cal Poly’s annual volunteer event over two weekends in spring quarter, and they need your help with planning! They will be meeting on Tuesday, January 12th at 6pm in fishbowl 216M. Leadership positions will be available. Please fill out this list if you are interested.

Winter Showcase is on Wednesday, January 20th from 6-8:30pm at Cafe Roma. Come out and share your EWB experiences with our supporters as we thank them for their contributions. If you need a ride or can give a ride, please fill out this form. For questions contact Briar Goldwyn at ewbcpoutreach@gmail.com.

If you are or know any upper level electrical or mechanical engineering majors, the Thailand team needs your help! The team will be working on a solar/energy project this quarter. If you are interested, attend their Monday night project meetings in 10-126 from 7-9pm.

There is a ten-week research program at the University of Nebraska-Lincoln where students will work with faculty and graduate students will work with their Civil Engineering Department to improve their understanding of how best to address the challenges facing rural environments.

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**Society of Women Engineers**

Evening with Industry is a banquet dinner held the week of the career fair that allows students to network with industry representatives and sit with a company of their choice. Representatives from 31 companies are attending, such as Google, Chevron, St. Jude Medical and Lockheed Martin.

When: Thursday, January 21st (Networking starts at 5:00pm, Dinner starts at 6:30pm)
Where: Avila Beach Golf Resort

Tickets can be purchased in the SWE office (Bonderson 212) weekdays from 10:00am-4:00pm until all seats are sold out. Tickets cost $20 for SWE members and $40 for non-members.
BRAE NEWS & EVENTS

BRAE Department purchases new Trimble GNSS Equipment

In the Spring quarter of 2015 the BioResource and Agricultural Engineering Department committed to upgrading the current GPS systems used in classes. The systems at that time had been built by Dr. Strohman from the BRAE Department. In 2002, high precision, dual frequency GPS boards had been donated by Ashtech Corporation to the department. Changing that donation from circuit boards to operational Real Time Kinematic (RTK) systems for classroom use took 100’s of hours on Dr. Strohman’s part and 10,000’s of dollars. By 2006 they were introduced into the classroom and have been used in every surveying class since, as well as some other classes and a number of projects. The “BRAE” RTK units are starting to show their age and because of the modernization of the GPS System by the Department of Defense, the units will become obsolete in a few years.

A search for modernized systems began last spring, by contacting a number of vendors and manufactures’. Harry Hamilton, BRAE faculty member, contacted a member of the Trimble Board of Directors, who he had done some consulting for. Trimble is leader in providing positioning-centric information and is best known for their leadership role in GPS. That call prompted Trimble to send Bryan Gibert, their Geospatial Americas Solutions Manager from Colorado to see what we actually did with this type of equipment here at Cal Poly. After looking over the equipment we had and the tasks we performed in our classes, Mr. Gibert went to work. After some back and forth about what was needed and what we could afford, Trimble and the BRAE Department came to an agreement on the equipment that we could work with.

Trimble ended up giving the school an over 60% discount on $330,000 worth of equipment which includes:
- New GNSS Base Station
- Broadcasting Radio for the base station
- 12 - R8s GNSS Rover units
- 12 - TSC3 Data Collectors
- 11 – Licenses for Trimble Business Center Software
- Robotic, scanning, imaging Total Station

The new equipment arrived around the beginning of the Fall Quarter, however due to some operational issues and the complete change in work-flow in the field, they were not used in the Fall quarter. Over the winter break, Trimble sent 2 people here for 3 days of training and to aid in the installation of the new base station. The previous base station that BRAE had used, had been installed on top of Building 11 back in the 1990’s, which caused a few issues in upgrading to the new base station. Thanks to Virgil Threlkel’s help all those issues were overcome and the base station was successfully installed. The first week of this year, the final task was completed with the base station put on-line.

These new units will be used in BRAE 128, BRAE 237, BRAE 239, BRAE 247, BRAE 447 and other classes starting with this Winter Quarter. The base station status can be seen by going to Tom Mastin’s personal webpage http://www.calpoly.edu/~tmastin/ then go to Quick Links and select “BRAE Base St.”
SAFETY TIP OF THE WEEK

Proper Attire When Operating Rotating Equipment

While operating machinery in the labs, it is important to be mindful of the way you dress. Wearing long hair and loose or baggy clothing is particularly dangerous around rotating equipment such as lathes, grinders, end mills, etc.

Loose items can get caught in rotating parts, which can cause you to get quickly sucked into the machine. This can cause serious injury!

The following should NOT be worn...
- Long hair that can fall forward into your work area.
- Jewelry such as necklaces and bracelets that can become caught or entangled.
- Scarves.
- Long baggy sleeves.
- Loose jackets and outerwear that can catch on rotating parts.
- Anything that can snag on machinery or rotating equipment.

The following examples pose serious safety risks in a shop environment:

The following examples are preferred in and around a shop environment:

Keep hair tied up and back. Sleeves should be snug fitting.

Loose, baggy, or dangling items should not be worn around rotating equipment!
**JANUARY CALENDAR**

Mistake in Last Week’s Calendar: 1/19 will follow a normal Tuesday schedule, not a Monday schedule.

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<td>P.A.A.C. Meeting 6pm 8-122</td>
<td>Club Officer Meeting 6pm 8-122</td>
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<td>No School</td>
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STUDENT OPPORTUNITIES

2016 PANETTA INSTITUTE
CONGRESSIONAL INTERNSHIP PROGRAM

Cal Poly is accepting applications for the Panetta Congressional Internship Program, a fully funded experience in Washington, D.C., available to selected California university students.

Each fall quarter the Panetta Institute for Public Policy presents a two-week training session on the campus of CSU Monterey. Students then head to Washington, D.C., for 11 weeks to work in the office of a California member of the House of Representatives while earning college credit.

Applicants from all majors must meet the following basic requirements:

- Matriculating junior or senior status during the time of the internship and has not applied for graduation.
- GPA 3.5 or above
- Exemplary leadership abilities
- U.S. citizen and California resident
- Demonstrates commitment to community and public service

For more information regarding eligibility, the application process, and program details, visit: provost.calpoly.edu/content/internship.

The Cal Poly Panetta Congressional Intern is supported in part through the Ed and Jan Slevin Congressional Internship Endowment.
STUDENT OPPORTUNITIES

Post-BS and Post-MS Research Associate Positions in Microalgae Biofuels R&D at Pacific Northwest National Laboratory, Marine Sciences Laboratory, Sequim, WA

The selected candidate will cultivate microalgae under climate-simulated conditions in bench-scale photobioreactors and pilot-scale, state-of-the art, indoor, LED-lighted and temperature-controlled 800 liter raceway ponds for the production of biofuels. The photobioreactors and ponds will be operated via computer control (LabView) to simulate the daily fluctuations of sunlight and water temperature that is observed in outdoor ponds. The project will involve the preparation of sterile growth media, the inoculation of bioreactors and ponds with appropriate microalgae species/strains, and the monitoring of biomass growth via spectrometric and gravimetric methods. Throughout the experiment, the light intensity, pH, nutrient concentration, and temperature of the cultures will be monitored. Additional experiments may be carried out to quantify the specific growth rate of selected strains as a function of temperature and light intensity, and to determine the loss biomass during the dark period. The photosynthetic oxygen evolution rate may also be measured as a function of light intensity for selected strains and temperature conditions. All data will be analyzed and plotted using Microsoft Excel, and the various experimental studies will be published in peer-reviewed journals.

The position is located at PNNL’s Marine Sciences Laboratory (Dr. Michael Huesemann’s microalgae biofuels laboratory) in Sequim, WA. The planned start date is flexible, ranging from May to August 2016.

The applicants’ resume should include the GPA, a list of laboratory courses, and a brief (less than 150 words) essay explaining their interest in this position.

Qualifications
Must have basic knowledge of biochemistry and microbiology.
Must have basic wet chemistry laboratory skills.
Must be comfortable operating various laboratory equipment and trouble-shooting newly setup test procedures and equipment.
Must have experience with culturing microorganisms using sterile techniques.
Must have working knowledge of Microsoft Excel to analyze and plot all data.
Must write technical reports summarizing all experimental data.
Knowledge of LabView control software desirable.
3.5 GPA or higher is preferred.

Candidates must have received either a Bachelor’s degree or Master’s degree in microbiology, biochemistry, botany, biochemical engineering or related field within the past 2 years from an accredited college or university. All staff at the Pacific Northwest National Laboratory must be able to demonstrate the legal right to work in the United States.

See BRAE website for applications - Appliccations due 2/1/16
STUDENT OPPORTUNITIES

Civil & Environmental Engineering Career Fair

Who: Everyone looking for a job or internship! CE/ENVE, ARCE, Landscape Architecture, City and Regional Planning, BRAE, and Construction Management majors are especially encouraged to attend!

When: Friday January 15th, 9am-2pm

Where: Chumash Auditorium

What: Bring your resumes and your best business attire for a day of networking! Over 65 companies specific to Civil & Environmental Engineering are attending and want students like YOU! Check out the lists of companies at www.cpsce.com. For questions contact Kate McMahon at vp.cpsce@gmail.com.

Companies in attendance:

- Anning- Johnson Co
- Arcadis
- Balfour beaty
- Berkel and Company
- BNBUILDERS
- Brown and Caldwell
- Build Group
- Cannon
- Carlson, Barbee & Gibson, Inc.
- Carollo Engineers
- CH2M Hill
- Civil Engineering Associates, Inc.
- Clark Pacific
- Consolidated Engineering Laboratories
- Cornerstone Earth Group
- County Sanitation Districts of L.A. County
- Cunningham Engineering
- DKS Associates
- Engineering/Remediation Resources Group
- Fehr and Peers
- Fugro Consultants
- GEI Consultants
- GHD
- Goodfellow Top Trade
- Harris & Associates
- Hilti
- HMH Engineers
- Hohbach-Lewin Inc.
- Hultgren-Tillis Engineers
- Incledon Consulting Group
- Jensen Design & Survey, Inc.
- Kier & Wright
- Kiewit
- Kimley-Horn
- KNA Consulting Engineers, Inc.
- KPFF
- Lea & Braze Engineering Inc.
- Mark Thomas & Company
- Michael Baker Int.
- Mead and Hunt
- MNS Engineers Inc.
- MWH
- Nova Group
- Nucor
- NV5
- Omni- Means, Ltd.
- PERI Formwork Systems, Inc.
- Quincy Engineering
- RGH Consultants
- Riverside Flood Control and Water Conservation
- RMC Water and Environment
- Rockridge Geotechnical Inc.
- San Diego Gas & Electric
- Santa Clara Valley Water District
- Shannon & Wilson
- Shimmick Construction
- Simpson Gumpertz and Heger
- Teichert Construction
- Traylor Bros.
- The Dutra Group
- Vali Cooper & Associates
- W-Trans
- Wallace Group
- Wallace Kuhl & Associates
- Water Works Engineers
- Webcor
- West Coast Code Consultants, Inc
- West Yost & Associates
- Whiting-Turner Contracting Co.
- Whitson Engineers
- Wood Rodgers, Inc.
- ZCON Builders
JOB OPENING: Irrigation Designer

# of Positions: 2                      Department: Design
Job Type: Full Time                Compensation: Salary + Performance Incentive
Benefits: Full Benefits            Educational Requirement: Degree in Agricultural Engineering

Want to be part of a fun spirited, energetic, forward thinking team? We are looking for a self-driven designer willing to openly collaborate with coworkers, design, creatively produce and problem solve projects in the field and in the office for highly creative & innovative irrigation company.

Job Position: In a word, Designer...In the words of your potential teammates, problem solver, critical thinker, excellent communicator, conceptual thinker, hands on, outside the box, plays well with others. If it has to do with water we design it: Irrigation, Pump & Filter Stations, Electrical Controls, Fertilizer Injectors and more...

What We Provide: A fast-paced, fun and energetic team environment; expansive workspace & open access to experienced team members ready to train and work with you to create amazing results.

What We Want You to Provide: Motivation with strong desire to learn; High intellect; Ability to meet deadlines and excel under pressure; Knowledge of irrigation is a plus; Proactive communicator with team members, sales team, customers and vendors; Dedication; Efficiency; Endurance for the busiest seasons; Flexibility and an Engineering Mind.

What Will Make You a Great Candidate: In addition to the above character traits and skills, experience with or willingness to become an expert in programs such as Excel, Design Software, and Access; an understanding of Irrigation Hydraulics; and a friendly, outgoing personality.

Bottom Line: If you like people, hard work, dirt, water, success, and a challenge – Opportunity awaits! Apply soon for more information. Email resume to SJR@LodiIrrigation.com