The Civil Engineering Department and the ASCE Student Chapter at Sacramento State proudly announce that the Steel Bridge and Concrete Canoe Teams will be competing at the national level. This is the first time in the history of the Department that we will be sending two teams to Nationals in the same year. At the 2013 Mid-Pacific Regional Competition, hosted by San Jose University and Santa Clara University, the Concrete Canoe Team placed 2nd overall and the Steel Bridge Team placed 3rd overall. The Concrete Canoe National Competition is in Urbana-Champaign, Illinois from June 19 to June 23, and the Steel Bridge Team will compete in Seattle, Washington from May 31 to June 1.

As these teams prepare for their respective competitions, they face expenses much greater than their remaining budgets. Given the short amount of time to registration (May 6 and May 17 for steel bridge and concrete canoe, respectively), your support would be greatly appreciated. Attached are statements from both teams, summarizing their competitions, approximate budgets, and tentative schedules.

We plan to thank all of our sponsors by posting their logos on the Civil Engineering Department website and each of the national team competition shirts. Additionally, a banner will be made to express our gratitude to our sponsors, which will be displayed by the teams at their respective competitions and will be displayed in the engineering building at Sacramento State.

Please see attached form for details on making a donation. If you have any questions or would like any additional information please feel free to contact the fundraising committee, faculty advisors, or department chair:

Alban Gjongecaj, EIT
ASCE National Fundraising Committee
Phone: (916) 412-1864
E-mail: albangjongecaj@gmail.com

Dr. Benjamin Fell, PE
Steel Bridge Faculty Advisor
Phone:(916) 278-8139
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Dr. Kevan Shafizadeh, PE, PTP, PTOE
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Dr. Mathew Salveson, PE
Concrete Canoe Faculty Advisor
Phone: (916) 278-6812
E-mail: salveson@ecs.csus.edu
2013 National Concrete Canoe and Steel Bridge Teams
Sponsorship Form

Contact Information:

Contact Name: __________________________________________

Company Name: __________________________________________

Mailing Address: __________________________________________

Phone Number: __________________________________________

Email: __________________________________________________

Webpage Link: ____________________________________________

Donation amount:

2013 ASCE National Competition Teams: $_________________________

*Please fill out form completely & make checks payable to “ASCE at CSUS”.
Also, please email company logo to albangjongecaj@hotmail.com

The ASCE Sacramento State Student Chapter hopes to receive your reply soon. Our mailing address is as follows:

California State University, Sacramento
Department of Civil Engineering
Attention: ASCE Student Chapter, National Fundraising Committee
6000 J Street, Riverside Hall RM 4024
Sacramento, CA 95819-6029

If you have any questions, please email us at: albangjongecaj@hotmail.com or visit our website:

www.SacStateASCE.org
INTRODUCTION

It has been nine years since Sacramento State has participated in the National Concrete Canoe Competition. With a long history in Concrete Canoe, Sacramento State has only made it to the national level six times. At the 2013 regional competition (Mid-Pac Conference) Sacramento State competed against 7 other schools and ultimately placed 2nd overall, thus qualifying for nationals. Now faced with budget needs over twice what is normally needed to construct the canoe, the team is looking for individuals or companies to get our team to nationals.

ASCE Concrete Canoe is a club that allows students to work independently with groundbreaking reinforced concrete applications. Students are challenged to step out of the classroom and provide innovative approaches to design and develop a sustainable and durable concrete canoe.

This year the team dedicated their canoe to the City of Sacramento, the capital of California. The canoe artwork displays famous landmarks of Sacramento, such as the Capitol Building, Downtown, the Tower Bridge, and the engineering building at Sacramento State, Riverside Hall. During display judging the canoe stands on a frame that resembles the Tower Bridge. The rest of the display, showcasing materials and resources used, is elegantly incorporated in a mockup of the Capitol Building. Another element of the display is a cutaway section of the canoe depicting all the construction stages. The Sacramento State logo is embedded within this cutaway.
Additionally, the team trained to be competitive in the races. This was achieved by practicing in the American River, near the Sacramento State engineering building. Along with training, the redesigned shape of the canoe allowed for excellent placement in all the races.

Besides the team’s hard work and dedication, this achievement would have not been possible without the invaluable support and assistance of local industry. From cutting the foam mold at Clark Pacific, to concrete admixtures from BASF, to aid with mix design from GST International, to assistance with artwork from AD3GRAPHICS, to monetary donations from: Myers & Sons Construction, Magnus Pacific, Quincy Engineering, Brown and Caldwell, and Aiken Welch Court Reporters. Alongside industry, the team was greatly supported by the following professional organizations: Sacramento State ASI, ASCE Sacramento Section, YMF, and Capitol Branch.

Lastly, the Civil Engineering Department and faculty advisor, Dr. Matthew Salveson, played a vital role in this historic achievement for the team and school as a whole.
The budget above shows the expenses the team faces to attend the national competition. Given the location (Urbana-Champaign, Illinois), a large sum of money is needed to cover transportation of the canoe, display, and team. It is essential to send the paddling team and presenters to the competition, for whom registration fees need to be paid. The team will use the truck and trailer to haul the canoe from a family member at no rental cost. This equates to a total cost of $7,800, as seen in Priority Level 1 above.

The second priority for the national competition is to maintain the truck and trailer used to transport the canoe, purchase food for the duration of the trip, and cover registration costs for the remaining students and faculty who plan to attend the national competition. This equates to a total cost of $6,000.

The last priority for the national competition is to cover travel costs for members of the competition team who are unable to travel with the trailer.

The team entered the regional conference with a budget of $5,300. This budget was established for the entire duration of the competition, included development and testing, construction, artwork, paddling, registration and room and board for the conference. The team now faces a budget of $14,800 for the national competition; more than double the regional conference.
2013 COMPETITION TEAM

Members Attending National Competition:  *Competition Team +Additional Students

*Competition Team

K. Cameron
L. Davis* 
C. McEnroe
K. Shavish, 1st year

Testing and Development
J. Common, 1st year
B. Ellis, 1st year
G. Flores, 1st year
L. Fung, 1st year
C. McEnroe, 1st year
C. Nguyen, 1st year
D. Nguyen, 2nd year
M. Reynolds, 1st year
K. Shavish, 1st year

Paddling
K. Davis, 3rd year
R. Bokta, 2nd year
G. Flores, 1st year
K. Kolekar, 1st year
L. Oliver, 1st year
C. McEnroe, 1st year
J. Eden, 2nd year

Academics
G. Bolik, 1st year
K. Cameron, 2nd year
K. Davis, 3rd year
A. Gjorgjiev, 3rd year
M. Hardy, 2nd year
S. Murphy, 1st year
S. Tierney, 2nd year

Artwork
S. A.H, 1st year
D. Kang, 3rd year
C. McEnroe, 1st year
M. Reynolds, 1st year
Y. Riou, 2nd year

Gabe Flores* 
Construction
S. A.H, 1st year
G. Ball, 1st year
E. Bets, 2nd year
C. Blanchini, 1st year
J. Common, 1st year
B. Dufay, 2nd year
B. Dwyer, 1st year
J. Eden, 1st year
L. Fung, 1st year
S. Johnson, 1st year
Z. Jajola, 4th year
M. Magare, 1st year
C. Matadze, 1st year
C. Nguyen, 1st year
D. Nguyen, 2nd year
M. Reynolds, 1st year
J. Riley, 3rd year
Y. Riou, 2nd year
J. Shinneman, 3rd year
K. Stavish, 1st year
## National Competition Tentative Schedule

### Tentative Student Schedule

#### Wednesday, June 19, 2013
- **3:00 pm - 7:00 pm**: Check-In  
  Location: Florida Avenue Residence Hall Lobby
- **9:00 pm - 9:00 pm**: Team Captains' Meeting  
  Location: Navrak Civil Engineering Building  
  (Room 1310)

#### Thursday, June 20, 2013
- **6:00 am - 8:30 am**: Breakfast  
  Location: Dorm Dining Hall  
  (Florida Avenue Residence Hall)
- **7:00 am - 11:00 am**: Canoe Unload/Display Setup, Team Photos, Weigh In, Swamp Tests  
  Location: Bardeen Quad  
  (Rain Site: The Armory)
- **10:00 am - 10:30 am**: Team Captains' Meeting  
  Location: Grainger Engineering Library  
  (Room TBD)
- **10:00 am - 3:30 pm**: Career Fair  
  Location: Bardeen Quad
- **11:00 am - 11:30 am**: Group Photo  
  Location: Bardeen Quad
- **11:30 am - 12:00 pm**: Welcome Address  
  Location: Bardeen Quad
- **12:00 pm - 1:30 pm**: Lunch  
  Location: Bardeen Quad
- **1:30 pm - 4:00 pm**: Final Product Judging  
  Location: Bardeen Quad
- **2:00 pm - 3:00 pm**: Preview of Presentation Facilities  
  Location: Siebel Center for Computer Science  
  (Room 1404)
- **6:30 pm - 6:30 pm**: Campustown Dining Experience  
  Location: Campustown (Green Street)

#### Friday, June 21, 2013
- **6:00 am - 8:30 am**: Breakfast  
  Location: Dorm Dining Hall  
  (Florida Avenue Residence Hall)
- **8:00 am - 12:00 pm**: Presentations  
  Location: Siebel Center for Computer Science  
  (Room 1404)
- **12:00 pm - 1:30 pm**: Lunch  
  Location: Siebel Center for Computer Science
- **1:00 pm - 1:30 pm**: Team Captains' Meeting  
  Location: Navrak Civil Engineering Building  
  (Room 1310)
- **1:30 pm - 5:00 pm**: Presentations  
  Location: Siebel Center for Computer Science  
  (Room 1404)
- **5:00 pm**: Dinner on Your Own and Night Off

#### Saturday, June 22, 2013
- **6:00 am - 8:00 am**: Canoe Drop Off & Breakfast  
  Location: Homer Lake
- **7:30 am - 6:00 am**: Team Captains' Meeting  
  Location: Homer Lake
- **8:00 am - 12:00 pm**: Canoe Races  
  Location: Homer Lake
- **12:00 pm - 1:00 pm**: Lunch  
  Location: Homer Lake
- **1:00 pm - 3:30 pm**: Canoe Races  
  Location: Homer Lake
- **7:00 pm - 10:00 pm**: Awards Banquet  
  Location: Colonades Club at the Stadium

#### Sunday, June 23, 2013
- **8:00 am - 12:00 pm**: Checkout  
  Location: Florida Avenue Residence Hall Lobby
INTRODUCTION

For the first time in 10 years, Sacramento State will be participating in the National Student Steel Bridge Competition. At the regional competition the team competed against 10 other schools, placing 3rd overall, in addition to 3rd in lightness, stiffness, and economy. As the team prepares for travel and bridge improvement costs for Nationals in Seattle, the team is in need of support from individuals and local engineering firms.

The Steel Bridge Student Competition provides students with the opportunity to design, fabricate and construct a 17-foot steel bridge under realistic constraints. It gives students a chance to think through engineering problems, analyze the limitations, and develop solutions. Through this competition students applied structural analysis and steel design principles, and utilized software such as SAP2000. Over 30 truss layouts were analyzed before deciding on a final design. The bridge was fabricated in the machine shop on campus entirely by students, which included cutting, welding, and grinding. The students learned first hand about tolerances, constructability, and detailing.
This year’s design of the bridge focused on increasing stiffness while reducing the total weight of the bridge. The connections allowed for fast and easy construction, which resulted in a rapid build time with a reduced number of builders. Additionally, the team completed their construction a month before the regional competition, allowing for extensive practice sessions.

Besides the team’s hard work and dedication, this achievement would have not been possible without the invaluable support and assistance of Aircraft Spruce, which provided steel at a discount, and the technicians at Sacramento State, whose experience assisted greatly throughout fabrication. Lastly, the Civil Engineering Department and faculty advisor, Dr. Benjamin Fell, played a tremendous role in this remarkable achievement for the team and school as a whole.
Team members attending Nationals:  Build Team (6)
*Additional team members (9)
Steel Bridge National Budget

<table>
<thead>
<tr>
<th>Travel and Lodging</th>
<th>Priority 1</th>
<th>Priority 2</th>
<th>Priority 3</th>
<th>Subtotal</th>
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<tr>
<td>Lodging for 6 students</td>
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<td>($110x3nightsx3rooms)</td>
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<td>Gas</td>
<td>$ 1,000.00</td>
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<td>Food</td>
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<td>Lodging for 9 additional students</td>
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<table>
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<tr>
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<td>Registration for 6 students</td>
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<td>($110/person)</td>
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<tr>
<td>Registration for 9 additional</td>
<td></td>
<td></td>
<td>$ 990.00</td>
<td>$ 990.00</td>
</tr>
<tr>
<td>students</td>
<td></td>
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<table>
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<tr>
<th>Bridge Improvements</th>
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<td>Additional Steel</td>
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<tr>
<td>Equipment</td>
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<td>Impact Drills</td>
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<table>
<thead>
<tr>
<th>Total</th>
<th>Priority 1</th>
<th>Priority 2</th>
<th>Priority 3</th>
<th>Total</th>
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</thead>
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<tr>
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<td>$ 1,550.00</td>
<td>$ 3,310.00</td>
<td>$ 7,510.00</td>
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Budget Justification

The table above lists the estimated expenses for the Steel Bridge Team to prepare for the National Competition. The first priority is for the team captains and builders, a total of six students, to attend the competition. The team plans to use a private vehicle to drive from Sacramento to Seattle and is only asking for fuel costs to be provided. Registration costs are $110/student to cover costs for the host university (Univ. of Washington).

In addition to supporting the travel, registration and lodging costs of the captains and builders, the team is excited for the opportunity to modify their design to compete at a higher level at nationals. Considering that the Mid-Pacific region is so competitive, with the winner often placing at nationals, the team believes it can be very successful with several changes to their bridge. For example, replacing some over strengthened members with lighter steel to decrease weight, and purchasing impact drills to further decrease construction speed.

Finally, to have as much student participation as possible, there is a budget item to send nine additional students to the competition at an additional cost of $2800.
# National Competition Tentative Schedule

## Friday, May 31st

<table>
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<tr>
<th>Time</th>
<th>Activity</th>
<th>Location</th>
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<tbody>
<tr>
<td>10:00 am – 2:00 pm</td>
<td>UW Civil Engineering Tours</td>
<td>More Hall, UW Campus</td>
</tr>
<tr>
<td>12:00 pm – 3:00 pm</td>
<td>Team Registration</td>
<td>Red Square, UW Campus</td>
</tr>
<tr>
<td>3:00 pm – 6:00 pm</td>
<td>Display Competition</td>
<td>Red Square, UW Campus</td>
</tr>
<tr>
<td>5:30 pm – 7:00 pm</td>
<td>Captain’s Meeting</td>
<td>Kane Hall, UW Campus</td>
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## Saturday, June 1st

<table>
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<tr>
<th>Time</th>
<th>Activity</th>
<th>Location</th>
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<tbody>
<tr>
<td>7:00 am</td>
<td>Report to Competition Site</td>
<td>Hec Edmundson Pavilion, UW Campus</td>
</tr>
<tr>
<td>7:30 am</td>
<td>First 10 teams will be ready to stage or pre-stage/ Build Judges will be on-the-clock</td>
<td>Hec Edmundson Pavilion, UW Campus</td>
</tr>
<tr>
<td>8:00 am – 4:00 pm</td>
<td>Competition Begins and Continues until all Teams have Completed</td>
<td>Hec Edmundson Pavilion, UW Campus</td>
</tr>
<tr>
<td>11:30 am – 1:30 am</td>
<td>Lunch Distributed to Competitors and Judges</td>
<td>Hec Edmundson Pavilion, UW Campus</td>
</tr>
<tr>
<td>12:00 pm – 3:00 pm</td>
<td>Sponsor Booths &amp; Seattle Engineering Display</td>
<td>Hec Edmundson Pavilion, UW Campus</td>
</tr>
<tr>
<td>6:30 pm</td>
<td>Awards Banquet Dinner</td>
<td>Husky Union Building Ballroom, UW Campus</td>
</tr>
</tbody>
</table>