

INDUSTRY ADVISORY BOARD MEETING MINUTES

October 13, 2010

Hosted and Chaired by Brianna Lutes of Infrastructure Engineering Corporation
Vice Chair – Maria Charles of Hamilton Sundstrand

I. Welcome & introductions

The October 13, 2010 San Diego MESA Alliance (SDMA) Industry Advisory Board (IAB) meeting was called to order at 1:25 pm by B. Lutes. Theresa Garcia congratulated and thanked MESA alums B. Lutes and M. Charles for their acceptances as Chair and Vice Chair, respectively. B. Lutes explained that the Chair typically hosts IAB meetings which are why the IAB has moved from Rick Engineering Company to Infrastructure Engineering Company.

Members present

Name	Company	Phone	Email
1. Alvarez, Rafael	San Diego City College MESA	619-200-2202	ralvarez@sdccd.edu
2. Bakhiet, Raga	Southwestern College MESA	619-200-2202	
3. Charles, Maria Victoria	Hamilton Sundstrand	858-591-1111	
4. Garcia, Theresa	SDSU MESA Engineering Prog.	619-200-2202	
5. Jimenez, Oscar D.	Solar Turbines	619-200-2202	
6. Jordan, Michelle	SDSU MESA Schools Program	619-200-2202	
7. Lutes, Brianna	Infrastructure Engineering Corp.	858-591-1111	
8. Pamintuan, Eric	SPSD/MESA	619-200-2202	
9. Philpott, Alan	PEO C4I/SPAWAR	858-591-1111	
10. Schlotte, Wedad	NAVAIR North Island – FRCSW	619-200-2202	
11. Yang, Angeline Villanueva	SPSD/MESA	619-200-2202	
12. Zelkind, Lisa	Sempra Energy Utility – SDG&E	858-591-1111	

Guests present

Name	Company	Phone
1. Bakit, Naemi	Infrastructure Engineering Corp.	619-200-2202
2. Escobales, Orlando	SDSU PASE	619-200-2202
3. Kaufman, Kori	SDSU Univ. Relations & Dev.	619-200-2202
4. Quinones, Daniel	SDSU NSBE	310-200-2202
5. Villasenor, Fernando	SDSU SHPE	N/A

The San Diego MESA Alliance Industry Advisory Board members' contact information is private.

Please contact any San Diego MESA Alliance staff member for inquiries.

II. Focused topic development: Guest speaker Kori Kaufman, SDSU Director of Development, University Relations and Development

K. Kaufman, through the University Relations and Development department, is focusing on fundraising for the College of Engineering at San Diego State University (SDSU). A 5 year all inclusive comprehensive campaign will launch at SDSU in fall 2011 to zero in on what SDSU does best, with engineering being among one of those. A handout 'SDSU College of Engineering' was distributed listing various gift types and the breakdown of funding for the College of Engineering for 2009-2010. Student scholarships are important, as more than half of SDSU students rely on financial aid.

The floor opened to discussion about filling the gap between academia and industry. Companies need to be more involved in mentoring and developing employees, as school curriculum is mainly theory whereas industry is dynamic. The control systems classes at SDSU could use improving. Although companies may not be able to contribute funds in this case, they may be able to contribute to the school's research to update the curriculum. Companies are going to hurt in 5 years when the experienced engineers and scientists begin to retire. It is the IAB's responsibility to give MESA students the competitive edge to better prepare them for the workforce and to prevent outsourcing.

T. Garcia thanked the industry representatives at the table for hosting students during Shadow Day and for other sponsorships. These contributions, no matter how big or small, help the development of students. Kyocera, PG&E, Hamilton Sundstrand, Northrop Grumman, and Rick Engineering have all supported MESA with student scholarships. Individuals such as M. Charles and B. Lutes have donated their own funds out of pockets to contribute to the alumni BBQ and student scholarships, respectively. Although it is a goal to get companies to make donations where possible, individuals can also do their own part, especially if their companies offer to match any personal contributions.

With some companies being unable to directly donate funds for a variety of reasons, there are also other methods to contribute. For example, SDG&E contributed their facilities by hosting a regional event with MESA Statewide. See handout '*SDMA Support Needs for Annual Student Activities*'.

III. 2010-2011 Calendar highlights

A. Internships

A. Yang summarized the NSF/MESA Summer Team Internship program. Made available by a \$1.9 million NSF grant, \$1,250 stipends for 100 hours of work are available for 36 students across 3 MESA programs each summer. The team aspect of the internship is unique in the nation. Teams do not necessarily have to work on the same project or even in the same building, but they are required to collaborate through a support system.

This summer, 57 students participated in 22 teams. This was more than a 30% increase from last year. 30 science and engineering companies provided internships and faculty research opportunities. This was a 40% increase from last year. After the 100 hours of work is over, companies can elect to fund the interns themselves. 30-40% of the summer interns end up staying longer than the 100 hours. At SDG&E, the interns have been hired and are still currently there. Look out for 2011 recruitment e-mails between December 2010 and February 2011. The majority of intern applicants major in civil/electrical engineering and biology.

The IAB suggested that the SDMA advertise the summer team internship as a sales pitch. It should be a 1 page flyer that highlights the free 100 hours of internship work and list specific skills the intern has/could do. The introduction to the flyer will mention how they are not going to lack social and cultural capital because of their understanding of the *MESA Foundation for Learning*. This would help the IAB be better advocates for MESA. M. Charles recommended that if a company has had interns or hired an intern through MESA or the summer team internship program, then they should be used as an example in promoting the programs. She uses herself as an example at Hamilton Sundstrand to promote other potential MESA students, since she is a MESA alumna. M. Charles, A. Philpott, and W. Schlotte, volunteered to provide feedback on the aforementioned flyer, whilst M. Charles, O. Jimenez, and L. Zelkind volunteered to each provide approximately 100-200 copies of the finished product.

B. Walk on Water Competition, Saturday October 23 2010

The competition will be held at the Southwestern College swimming pool from 10:00 – 1:00 pm. R. Bakhiet is seeking industry members to volunteer as judges, or even participate as part of an industry team. W. Schlotte volunteered and will be sent directions, rules, and guidelines via e-mail. Judges would need to be on site at 9:00 am. More than 25 teams are expected to participate.

C. Shadow Day, Thursday November 18 2010

A. Yang stressed that the logistics for Shadow Day are very flexible, with a typical Shadow Day running from 9:00 – 2:00 pm. SDMA staff coordinates carpools for students to get to the company and back home. Unfortunately, about half of the students interested in shadowing an engineer or scientist will be unable to as there are currently 173 student applicants but 87 industry Shadow Day spots. A. Yang provided a list of companies participating and the number of students they've committed to. Applicable information can be found at: <http://engineering.sdsu.edu/mep/ShadowDay.htm>.

O. Jimenez asked for data that shows if a MESA student attended Shadow Day, whether that same student ended up working for that same company he or she visited on Shadow Day. A. Philpott is also interested in that data as well, in addition to how many Shadow Day participants have applied to SPAWAR's New Graduate Professional program.

D. MESA Days Preliminaries

Middle and high school MESA students work on various MESA Day projects and take them to Preliminaries, either at SDSU on Saturday, February 26, 2011 or Imperial Valley on Saturday, March 5, 2011. Preliminaries are used as a qualifier to determine who goes on to Regionals. Regionals then are separated by middle and high schools. The Middle School Regionals will take place on April 2, 2011 at Chapman University and High School Regionals will take place on April 9, 2011 at UCI.

M. Jordan thanked A. Philpott and W. Schlotte for their past volunteerism and asked if any IAB members can volunteer as judges and/or proctors. A typical MESA Day runs from 8:00 – 4:00 pm and a list of MESA Day projects can be found at: http://www.ucop.edu/mesa/mesa_day_rules/. M. Charles and B. Lutes volunteered for MESA Days Preliminaries at San Diego and Imperial Valley, respectively.

IV. MESA Program key updates

A. SDSU MESA Schools Program (MSP)

MESA Statewide provides limited resources to pre-college centers to provide activities to a designated number of schools. Once that budget is used up, they aren't able to add anymore schools. Currently, there are no South Bay schools in MESA, but Solar Turbines is in discussion to possibly sponsor a school. 10 middle schools and 11 high schools are part of the SDSU MSP. MSP serves 21 schools in 3 districts: San Diego Unified, Escondido Middle School & High School Unified, and Lemon Grove. M. Charles recommended contacting Kearny Digital Media Design, part of the Kearny High School complex, and recent recipient of the National Blue Ribbons Schools Program distinction, for information on how they've built their program.

12 advisors attended the SMART Conference at Chapman University to do hands on activities similar to what MESA students do so they can better relate. MSP will also be attending the USA Science & Engineering Festival to showcase projects and offer hands on activities.

B. San Diego State University (SDSU) MESA Engineering Program (MEP)

T. Garcia provided an update on the NSF Engineering Research Center (ERC). It is a collaborative effort between MIT, University of Washington, and SDSU. Out of over 100 proposals for ERC's, this collaborative made it to the final 11. The research focuses on sensorimotor neural engineering, which involves controlling robotic limbs using the brain. The collaborative will find out if awarded an NSF funded grant of \$20 million over 5 years by mid-November 2010.

SEMPRA donated \$30,000 to 5 Southern California centers, MEP being one of them. PBS&J Foundation also awarded MEP a \$5,000 grant towards the annual Leadership Summit event.

T. Garcia is looking for industry alumni to be part of a 3-4 alumni panel for her transfer orientation class on Friday, November 12, 2010 at 2:00 pm at SDSU.

MEP enrollment data was compared side by side to SDSU College of Engineering. See respective PowerPoint slides. There are a total of 104 new MEP students, for a total of 292. 33% of those students were able to enroll because of the NSF grant. The NSF grant requires a 10% increase in enrollment each year, but will end in fall 2012 and cause a drop in enrollment. Without the grant, MEP is even more limited on resources and can only have a maximum of 200 students in the program. Additional enrollment data mirrors the College of Engineering. There is no cost to be in the program or benefit from any of its services and activities.

C. San Diego City College (SDCC)

There are approximately 175 students in the MESA program, with 55% in engineering (civil and electrical) and 38% in sciences. More than 70% are Hispanic and 45% are female. R. Alvarez shared the concepts of the *MESA Capstone* and *Creator vs. Victim* that he passes down to his SDCC MESA students. Refer to:

<http://www.sdccity.edu/CollegeServices/StudentSupportResources/MESA/MESACULTUREOFSUCCESS.aspx>.

D. Southwestern Community College (SWC)

There are 149 students in the MESA program, with over 100 on a waitlist. The demographics closely resemble SDCC MESA's, mentioned above. The highlight of the season was MESA Night, where students presented both PowerPoint and poster presentations of their work. A few select students also presented in front of the SWC governing board and were praised for their performances.

V. Other topics

A. Company announcements

R. Alvarez showed a picture of Congresswoman Susan Davis and student organization officers from the San Diego Region Joint Planning Conference for Engineering and Science Chapters that Raytheon hosted and Rick Engineering Company co-hosted. More information can be found at: <http://alliance.sdccmesa.com/archives/1574>.

VI. Student organizations from San Diego State University

A. SDSU Pacific Asian Society of Engineers (PASE)

O. Escobales shared details the organization's participation in last year's Design Village architectural competition. Teams had to design a structure, transport it to San Luis Obispo, and live it in for 3 days. Their team built a working windmill which provided them with electricity. No other team had light. The competition is a great way for people to gain both short and long term experience.

PASE is also trying to start new event called Olympian Day which would be held at Olympian High School in South Bay. The event would be modeled after Granger Day in that attendees will gain the understanding that engineering is not outside of their reach. PASE is inquiring if industry can be represented at the event, whether through sponsorship, speaking, or providing demonstrations. PASE will contact A. Philpott and W. Schlotte for demonstration ideas.

B. SDSU Society of Hispanic Professional Engineers (SHPE)

F. Villasenor and SHPE teach rocketry and other concepts of engineering to community members and launch actual rockets at the Engineering at the Barrio event. Sweatshirt sales provide \$2,000 in income for the organization and have proved to be continually successful. Like any other student organization, SHPE would love to have industry representatives come out to general body meetings as guest speakers or provide sponsorship funds.


C. SDSU National Society of Black Engineers (NSBE)

D. Quinones shared NSBE's plans for 2011, which includes participating in the Breast Cancer Walk and attending the National NSBE Convention in Missouri around March 2011 as President Obama is tentatively scheduled to be in attendance. Earlier this year NSBE was at Garfield High School for Engineering Week. They created paper helicopters and let the kids choose between different sizes to reach a certain distance. One of their main goals for 2011 is to increase membership.

VII. Adjournment

Student organizations were encouraged to e-mail their community service and other events to SDMA staff so that it can be advertised through MESA. Industry representatives were encouraged to contact SDMA staff with their opportunities and needs so that MESA and MESA supported student organizations can be contacted as well.

The formal meeting adjourned at 3:38 pm. Minutes submitted by E. Pamintuan on December 7, 2010.



NEXT MEETING:
Wednesday, December 8, 2010
1:00 – 3:00 pm
Infrastructure Engineering Corporation
14271 Danielson Street
Poway, CA 92064