

AIC MEETING MINUTES

March 30, 2012 – 12:00 p.m. – 4:15, Student Union Presidio Room

Members Attending: Gary Barras, Kathy Chavez, Mo Ehsani, Alan Forrest, Charles Gajda, David Gildersleeve, James Glock, Kevin Josker, Therese Lane, Kevin Lansey, Scott Larson, Travis McCarthy, Tom McGovern, Farhad Moghimi, Ann Moynihan, Bill Nelson, Ed Nowatzki, Nathan Palmer, Dean Papajohn, Stan Turney, Mark Woodson, David Zaleski, Anna Naumovitz

Members Who Sent Regrets: Robert Barksdale, Joe Gervasio, George Maseeh, Mick Mathieu, Claudia Perchinelli, Robin West and Robert Wortman

Absent: David Areghini, Michael Barton, Jerry Cannon, Seth Chalmers, James Davey, Tom Draeger, John Evans, Eric Froberg, Chris Grubbs, Juan Lopez, Dave Mahaffy, Tom McLean, William Palmer, Nancy Patania Brown, Robert Rasmussen, and Ken Wright

Others Attending: Muniram Budhu, Matthew McDole, Eric Hopkins, Fernando Gastellum, Jose Aguilar, and Anna Naumovitz

Welcome and Introductions

Scott Larson called the meeting to order at 12:00 P.M. and all attendees introduced themselves. Nathan Palmer our newest member was in attendance and Matthew McDole a 1962 alumnus of the Department attended at Mark Woodson's guest from Colorado. Mr. McDole is the Vice President of Transportation Services at L.S. Gallegos & Associates in Denver.

Society of Civil Engineers Student Group

Anna Naumovitz, Eric Hopkins, Jose Aguilar, and Fernando Gastellum updated the group on the results of this year's conference at California State Polytech University in Pomona that was held the week before the AIC meeting. The final results had not been posted as of the meeting but are now available here: <http://www.pswc2012.org/results-and-scoring.html>. The PSWA Conference will be at the University of Arizona in 2015 so the club needs to raise about \$100K before then.

They had 17 companies attend the Career Fair in the fall and only 4 for the golf tournament. They hope to increase these numbers next year. One of their tech tours was the new Elephant Exhibit at the Reid Park Zoo. Their plans for the club for next year are very similar to what was done this year; golf tournament, outreach to the elementary school children (STEM at Cottonwood Elementary), food drive, adopt a highway, fund raising, career fair, and conference. The group is sorry that this is Brent Bourcher's last year as their industry adviser. He will be replaced by Jeff Hunt from Cyprus. Jeff is a 2005 alumnus. Sam Credio will continue as an industry advisor for the group.

Review of the Minutes

The minutes from September 2011 were reviewed and approved unanimously.

Treasurer's Report

David Zaleski reported that the Homecoming Barbecue expenses were \$4,432.13. The food was paid directly by Woodson Engineering and Quakewrap. Their contributions are very much appreciated. The Centennial Lunch expense was \$3,265. With donations and lunch ticket sales the department only had to cover \$1,033 in homecoming expenses. Dave said that he hopes that the AIC will be able to cover all of the expenses for these events in the future. Raffle tickets were sold for the student field trips earning \$500.

Next year's homecoming events will be the Centennial Lecture on Friday, November 9th and the CEEM Barbecue on Saturday, November 10th three hours prior to kick off.

Mohr's Circle members who have donated \$1,000 and have made a commitment to donate at least that amount every year is now at 23 members and the hope is to grow the group.

Bylaws and Membership

Kathy Chavez presented the proposed changes for the bylaws. Discussion ensued and the changes were unanimously approved as amended during the discussion. Changes were made to Article 3, section (b) 2, Article 5 (d), and Article 6 (a). The procedures that were added to the end include AIC events and agenda. The amended Bylaws and Procedures are on the Civil Engineering webpage.

Progression of the officers was discussed since Mark Woodson has become a town council member in Flagstaff. He will not be able to fulfill his duties at this time as Vice-Chair. A new Vice Chair will need to be elected at the next regular meeting.

Professor Special Report

Professor Muniram Budhu gave a report on "Sustainable Management of Groundwater Considering Ground Movements and Earth Fissures".

ABSTRACT

Land subsidence/uplift and earth fissures are serious concerns in the sustainable management of groundwater. The negative effects of land subsidence/uplift from groundwater pumping include flooding, structural and foundation damages to underground and above ground infrastructures such as pipelines and building, changes in land surface morphology, and the creation of earth fissures. Climate change and more demands for groundwater will intensify land subsidence and the concomitant effects.

In this contribution, recent findings on ground movements and earth fissures from groundwater withdrawal and recharge based on research conducted at the University of Arizona over the last 5 years will be presented. New mechanics coupling groundwater flow, soil deformation, soil stress states and soil failure have been developed.

The results of these new mechanics show that where the geology consists of interbedded layers of low (clays, silts) and high hydraulic conductive materials (sands and gravel), it is the low hydraulic conductive materials that control the spatial and temporal groundwater flow, land subsidence and uplift. Earth fissures would not develop if the subsidence gradient is less than 8×10^{-5} or Young's modulus is less than 200 kPa (equivalent to a shear wave velocity of 200 m/s) regardless of the pumping rate and the soil type. This is an important finding for groundwater management because ground monitoring data

from tools such as satellite borne radar can be used to forecast the potential development of earth fissures. Analytical and numerical results will be compared with field data from two study sites in Arizona. One study site is located in a region where groundwater is pumped and the other study site is an aquifer storage and recovery facility. A potential application tool for groundwater management that considers ground movements and earth fissures will be presented.

Department Head Report

Department Head Kevin Lansey listed recent achievements of the faculty and alumni. Professor Haldar was elected ASCE Distinguished member, Ed Nowatzki and Naresh Samtani were inducted as Diplomates into the Academy of Geo-Professionals (AGP) and Mark Woodson was elected Flagstaff Councilman.

The Tinius-Olsen renovation is almost complete. An anonymous couple donated funds to have this machine updated.

The Construction Engineering Management course with industry-led curriculum will begin in the fall. The majority of this course is funded by a donation from an anonymous couple this time and the hope is to have steady funding for future years. Tucson Utility Contractors Association (TUCA) has expressed interest and may put the funding as a line item in their budget but it is yet to be voted on. A discussion ensued about other possible funding for the course. Dr. Lansey and Scott Larson will draft a one page letter to give to potential donors for the course. If this goes well and funding is available more courses may be added to give greater depth to the subject. Dean Papajohn will be the instructor of the course and he spoke about his plans.

The Bridge Design Course will be taught again hopefully in the spring of 2013. Mel Green who teaches CE 434/534 Design Structures in Wood and Masonry has said that this is his last year that he will teach the course that is currently taught in the spring.

Kathy Chavez and the Centennial Lecture committee have two people in mind. They hope to have an invitation out to one of them soon so that the chance of him being able to speak is better. These high profile people have calendars that fill up quickly.

The Department is in the process of purchasing a new laboratory flume.

There are 11 faculty members currently in CEEM since Chandrakant Desai retired in January 2012. Hamid Saadatmanesh is returning in the fall of 2012. Recruitment is underway for mid-career rising stars. Three potential candidates have come to campus and an informal offer has been made to one but he is also being recruited by another institution.

The department is developing outreach courses and distance education programs such as the 2+1+1 program, and is partnering with community colleges. A large portion of the funding obtained in this effort is returned to the department. A discussion ensued about the target market for these classes and how to make it accessible. If a market analysis shows that graduate or short courses are wanted or needed then they will be developed.

There will be a budget reduction of 5% for next year and we are still transitioning to a Responsibility Centered Management (RCM) model. We are currently working on next year's budget to give to the Dean. The RCM funding pools for the department currently consist of state allocation and tuition. CEEM receives the majority of our funding from tuition which is good. The revenue opportunities for the department are the distance undergraduate 2+1+1 program, distance graduate courses, philanthropy, and graduate tuition. With the increased revenue the department could; add more faculty and have start up funds for them, have funds for faculty, staff and research development, promotions, more TAs, more adjunct faculty, improve teaching equipment, equipment for distance education, and student recruitment.

The needs of the department from the AIC are the ABET material review such as confirming objectives, student responses and employer input. The Department also needs guidance on strategic directions.

Dean of the College of Engineering Report

Dean Jeff Goldberg stated that we are keeping 75% of freshmen through the 1st year of Engineering. 48-60% of those students graduate. 27% of the freshmen this year in the college are women.

The College needs to plan for zero state funds in the future to be financially secure. We need to operate more like the private colleges. The Responsibility Centered Management (RCM) budget model is continuing to be implemented and departments receive funding from the number of courses their faculty teaches, the number of students that graduate, and the number of student credit hours in the departments. All graduate tuition goes back to the departments. If a faculty member from another department teaches a course, the faculty's department gets the credit not the course department.

Dean Goldberg recommended two books: *The Innovative University: Changing the DNA of Higher Education From the Inside Out* by Clayton M. Christensen and Henry J. Eyring and *The Coming Jobs War* by Jim Clifton.

The new Engineering building is in the request for qualification phase and will be located on the north side of Speedway east of the AME building. It will be an interdisciplinary building filled with faculty who can form research partnerships. The funding for the building is a new concept. \$55M is from the college, \$35M in IDC return, \$17M from the State and \$4M from ERE. The rest will be from philanthropy.

Two business development people were hired in the college; Ann Wilkie for SIE and Brian Tanek for ECE.

Breakout Session (3 Groups) 1. Fundraising led by Barry Benson, 2. Alumni Involvement led by Tom McGovern and 3. Vision of AIC led by Scott Larson.

Summary of the session groups:

1.) The Fundraising group learned that the number of donors for the department is increasing as well as the number of alumni that are donating to the department. A good way for the AIC to help with fundraising is to have the members introduce the Department Head to industry leaders to get them involved with the department where they will see the need for funding and become a donor. We need to

instill a culture of giving back to the University and let them know that the state is no longer a major source of funding.

2.) The Alumni Involvement group said that the department needs to communicate better and use more social media, publicize research better and use more teaching adjuncts from industry. Alumni should be encouraged to come to the AIC meetings to stay connected, promote UA in other states, have pod casts of research talks, have meetings in other cities, have ambassadors geographically (alumni pods), use the AIC for ABET and get more AIC members.

3.) The Vision of AIC group would like to create a mentoring program where the alumni/industry partner would meet with a student on campus once a month to see what they may need help with and give encouragement. They would like to have the department collaborate with industry to solve project problems. They would also like to partner with senior projects involving recent grads.

Next AIC Meeting:

Next meeting date is Friday, September 7th, 2012 in the Student Union Ventana Room on Level 4. The meeting will begin at noon with a light lunch beginning at 11:30 a.m.

Meeting Adjourned:

The meeting was adjourned at 4:15 p.m.