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AMERICAN SOCIETY OF CIVIL ENGINEERS SAN BERNARDINO & RIVERSIDE COUNTIES BRANCH LOS ANGELES SECTION , REGION 9-SINCE 1953

PRESIDENTS MESSAGE

March 2013



The February Inland Empire Council of Engineers and Scientists Banquet was well attended this year. The University of Redlands provides a great venue appropriate for the level of education of the attendees. This year's program was on the Mars Rover: Curiosity by a very dynamic speaker Dr. Tyler Nordgren, one of the scientists who worked on the design for Curiosity. A recap of the program is included in this issue.

If you missed National Engineer's Week last month you missed a chance to be in the spotlight as an Engineer. February 18 - 22 marked the 62nd anniversary of National Engineer's Week. According to the National Engineer's Week website (EWeek.org), America's engineers contribute more than one million hours annually to public service. Each February, our branch here in the Inland Empire contributes to that total by giving presentations to local High Schools about Civil Engineering. The presentation outlines the different fields of Civil Engineering and what it takes to become a successful engineer. Please see the article later in this newsletter on this topic.

It is interesting the use of technology to improve the traffic flow and the movement of freight through our country. Building new freeways and additional lanes to existing freeways is fast becoming a non-option to alleviate our transportation problems due to financial constraints and less availability of real-estate to build on. Much of the demand on our freeway and infrastructure system is the movement of freight by commercial vehicles; moving goods from the ports of LA and Long Beach to distribution centers inland. For this month's general meeting we have Richard Mueller, P.E., with Ameron International Corporation discussing Green Rail Development through a proposed redesigned freight handling systems in an effort to upgrade the San Pedro Bay ports. This redesigned system includes a "SuperDock" designed to increase ship loading/unloading speeds by four times, as well as a 150-mile underground tunnel for drone trains to deliver container throughout the Los Angeles and Santa Ana River Basins.

As always we encourage you to participate in your Branch of the American Society of Civil Engineers. You never know what opportunities may arise through ASCE unless you participate.

- Matthew Addington



NEWSLETTER



In 2011, the Museo Soumaya in Mexico City opened its new building - a 16,000 square metre facility designed by Fernando Romero from architectural firm LAR. The construction, houses the second largest private collection of works by French sculptor Auguste Rodin in the world. The museum, which was established in 1994 by the Carlos Slim foundation, is part of the City's redevelopment of an industrial zone dating back to the 1940's. The contents is spread over six floors, which also include an auditorium for 350 people, library, a restaurant, and a "multi-purpose gathering lounge", similar to a lobby.

The exterior of the distinctive structure is built from 28 curved steel columns. Seven beams circle around the structure to keep it stable, and the roof is suspended from a cantilever. Situated on the fringe of the city's exclusive Polanco district, the structure looks like a sequined anvil. It was designed by Slim's son-in-law, the previously little-known Fernando Romero, and is covered by 16,000 hexagonal aluminium scales, supplied by one of Slim's companies. From the outside, the structure looks set to become an icon of the city. The designers said "The building's envelope is nearly opaque, offering little and scarce openings to the outside. This gesture can be interpreted as an intention to create a protected shelter for the art collection." In contrast, the top floor is wide open to allow daylight to enter.

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MARCH MEETING

RICHARD MUELLER, PE

President, Water Transmission Group

Ameron International Corporation

Green Rail Intelligent Development

Richard Mueller has 31 years' experience in steel, concrete, and fiberglass pipe and pipeline design and construction, 2 years' experience in foundations and soil stabilization, 2 years' experience in lobbying for transportation infrastructure, 2+ decades' experience as promoter/designer/analyst of large diameter freight pipelines.

Mr. Mueller's current activity is development and promotion of a completely redesigned freight container handling system to upgrade the San Pedro Bay ports. This system, called "Green Rail Intelligent Development" or "GRID", includes a "SuperDock" designed to increase ship loading/unloading speeds by 4X, as well as a 150-mile underground tunnel for drone trains for container delivery throughout the Los Angeles and Santa Ana River basins. Total project value is approximately \$16B, with a resulting positive cash flow that will attract private investment.

LOCATION

Date: **Wednesday, March 20, 2013**

Time: 11:45am to 1:15pm

Location: Old Spaghetti Factory, 11896 Foothill Blvd.
Rancho Cucamonga, Ca. 91730

Cost: \$25 members w/ RSVP
\$30 non-members or no RSVP
\$15 students

Deadline: Please reserve by March 14, 2013

Additional Info: Matthew Addington, P.E., P.L.S.

matthew.addington@cityofrc.us

(909) 477-2710

2013 Workshop for Section and Branch Leaders

Sacramento, CA

This year I was chosen as our Branch delegate to attend the 2013 Workshop for Section and Branch Leaders (WSBL) in Sacramento, CA. ASCE Section and Branch leaders from all over the Western United States joined together for this two day event held in late January of this year. We were also joined by the Younger Member Forum (YMF) representatives as well as undergraduate ASCE leaders. As our section delegate, I had the opportunity to connect with a various array of Professionals in both the public and private sector of our industry. Over the two day event, there were workshops and presentations dealing with the issues we face as ASCE members, engineers, mentors, speakers, students and volunteers. While I found these events to be very beneficial, there was one discussion that kept coming up over and over; the Raise The Bar for Engineering (RTB) campaign.

The RTB discussion is very extensive and complex; this is the summary, as stated in the In-Brief Raise the Bar Fact Sheet (Dated 1/4/2013):

- The National Council of Examiners for Engineering & Surveying (NCEES) determines policies and provides the licensure for engineers and surveyors.
- From 2006 to 2010, the NCEES developed and approved the following prerequisite requirements for obtaining engineering licensure:
 - Accredited engineering bachelor's degree (existing policy)
 - A master's degree or an additional 30 credits of graduate or upper level undergraduate courses in engineering, science, mathematics, and/or professional practice topics (new policy)
 - Approximately four years (currently two) of progressive engineering experience
 - Successful completion of appropriate NCEES-sponsored examination (existing)

Note: This law is not yet in effect, but the target date is January 1, 2020 for individual state implementation, and will not apply to engineers that are already licensed.

- The purpose for this change is to increase formal education requirements for future engineers as done in other professions, including medicine, law, accounting, pharmacy, architecture, and occupational therapy.

Basically, the NCEES believes that expanded knowledge needs, society expectations of engineers, reduction in current educations hours and enhanced leadership skills are all factors that bring on the advanced requirements they have proposed.

I heard many reasons for and against the change, and while I am not yet totally on board with this entire campaign, I think it is a great discussion we can have together as engineers in an industry as complex as Civil Engineering. Advancing our profession should always be high on our priority list as ASCE members.

For more information on RTB, go to www.raisethebarforengineering.org

Sincerely,

Brandon Reyes

Branch Vice President

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**Your San Bernardino/Riverside ASCE Branch
has joined social media!**

ASCE San Bernardino/Riverside is announcing we have
joined the social media network Twitter to expand and
enhance our communication and outreach with our profes-
sional engineering network.

Please follow us on twitter @ASCESBRIV

Feel free to check us out, give us a follow,
and spread the word!

IECES Program Recap

February 19, 2013

February's Branch meeting was a joint meeting with all Inland Empire Engineering societies. This year featured an exciting presentation by Dr. Tyler Nordgren, Professor of Astronomy at the University of Redlands, California, on the Mars rover "Curiosity".



In 2012, NASA's Curiosity rover touched down on the surface of Mars as part of NASA's Mars Exploration Program, a long-term effort of robotic exploration of the red planet. Curiosity was designed to assess whether Mars ever had an environment able to support small life forms (i.e. microbes). In other words, its mission is to determine the planet's «habitability». NASA's mantra for Mars, "find water, find life".

A little history on viewing Mars as a habitable planet; Perceval Lowell became determined to study Mars and astronomy as a full-time career after reading Camille Flammarion's *La planète Mars*. He was particularly interested in the canals of Mars, as drawn by Italian astronomer Giovanni Schiaparelli, who was director of the Milan Observatory. In 1894 Lowell chose Flagstaff, Arizona for the home of his new observatory. It was there that he began to theorize on the idea that the canals were irrigation canals built by a supposed intelligent civilization on Mars. It wasn't until the spacecraft Mariner 4 launched in 1965 that we'd get a better look at the "Red Planet". Mariner 4's first drive by of Mars revealed the planet's texture, however no water or oceans were found. This somewhat killed the idea of Mars having life on it. Next, the Viking orbiter in 1976 picked up signs of water flow or that at one time, there was some sort of stream flows on Mars. However, Mars is too cold and its atmosphere too thin to support temperatures above freezing.

Olympus Mons is a large shield volcano on Mars, the tallest mountain on any planet in the Solar System. It stands almost three times as tall as Mount Everest's height above sea level, so tall that it pokes above the planet's incredibly thin atmosphere. Volcanoes help to regenerate atmosphere; and as Mars' atmosphere began to diminish, the planet cooled. The planet's small size caused it to cool fast. Cooling led to decreased magma flows, fewer volcanic eruptions, and loss of its magnetic field; ultimately leading to its current cold, dead state.

Lowell believed that we could learn more about earth, by looking at other planets. He noticed many similarities when looking at Mars and looking out his observatory window in Arizona, the Painted Desert's brilliant red rock formations. These layered rocks, led him to believe that life was once there. The red rock formations occur when water evaporates, leaving iron oxide behind to color the rocks. Additional signs that water once flowed on Mars were found on recent rover missions, where iron hematite spheres were found coming out of sandstone;



ASCE

LOS ANGELES

YOUNGER MEMBER FORUM



FRIDAY MARCH 15, 2013

LOCATION

THE LOS ANGELES ATHLETIC CLUB

(CENTENNIAL BALLROOM &
OLYMPIC LOUNGE)

431 WEST 7TH STREET

DOWNTOWN LOS ANGELES, CA 90014

COMPANY REGISTRATION

PLATINUM SPONSORSHIP \$800

GOLD SPONSORSHIP \$500

SILVER SPONSORSHIP \$250

INDIVIDUAL REGISTRATION

STUDENT MEMBER REGISTRATION

BEFORE 2/21/13 \$20

AFTER 2/21/13 \$25

ASCE MEMBER \$55

NON-ASCE MEMBER \$75

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KAITLIN HANNON

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CELL PHONE: 716-969-7686



THE LOS ANGELES YOUNGER MEMBER FORUM PRESENTS ITS

14TH ANNUAL

STUDENT NIGHT & JOB FAIR

4:30 - 6:30PM

JOB FAIR

7:00 - 9:00PM

DINNER/AWARDS/
SCHOLARSHIP PRESENTATION

UNIVERSITIES

CBU, CPSLO, CPP, CSUF, CSULA,

CSULB, CSUN, LMU, UCI, UCLA, USC

DEADLINE FOR REGISTRATION: THURS, FEBRUARY 28, 2013

REGISTER AT WWW.MLAB-YMF.ORG

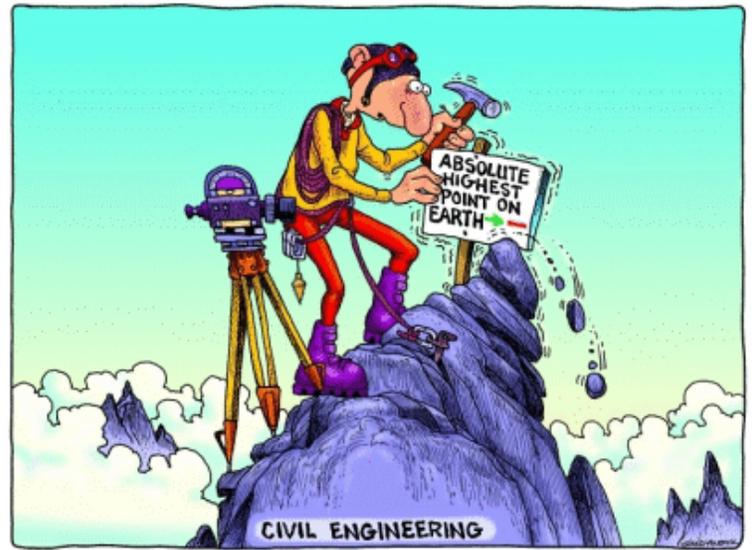
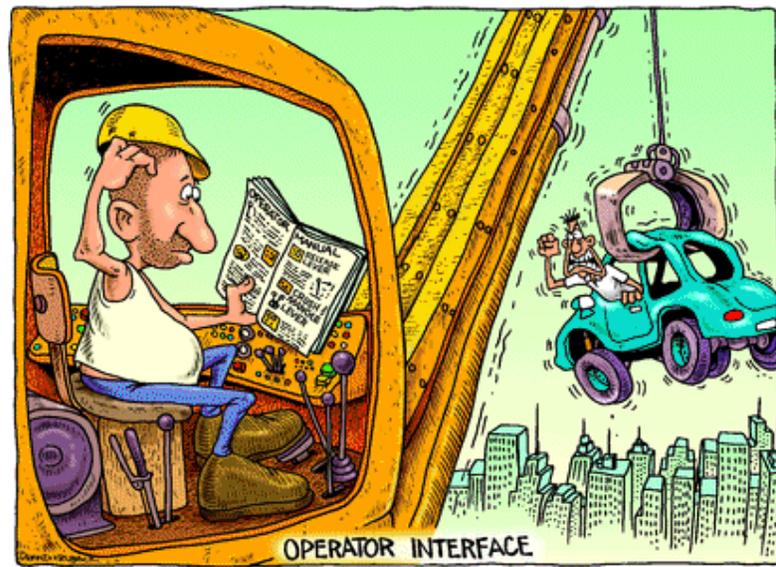


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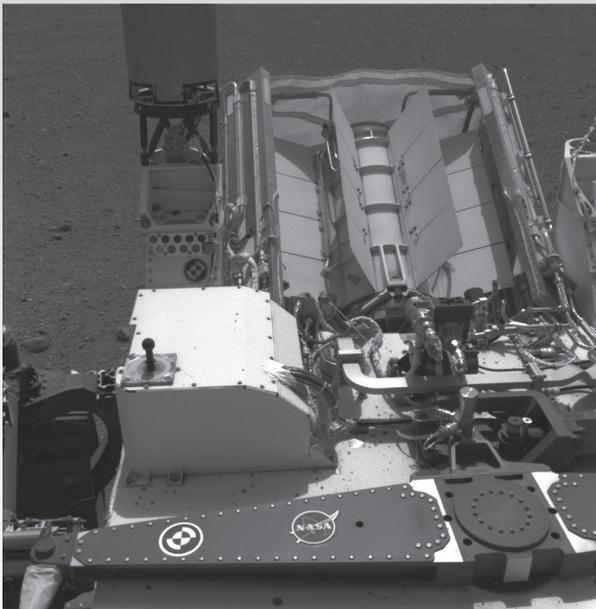
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Metro Los Angeles Branch



Cartoons By: Rand Kruback

Lighter Side

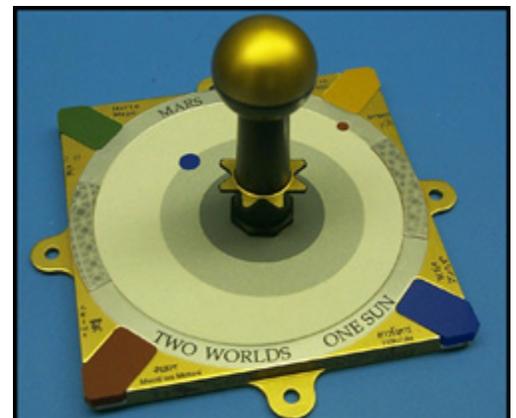
IECES Program Recap Continued



similar to those found in Utah and Arizona, formed when groundwater flows through sandstone.

NASA search on Mars is simple, to find the three things vital to life, energy (e.g. sun, geothermal, etc.), water (i.e. know to be frozen now, but what about inside Mars core), and organic molecules. Curiosity was developed to be a mobile chemistry lab, looking for organic molecules, and was sent to the base of a 3-mile high mountain to ascend and collect data. The next Mars will be capable of drilling into Mars core for temp readings and will be equipped with a seismometer to record any ground motion activity. The main takeaway from Mars is this: to know that there was life and now there is none, truly shows how precious our planet is.

Dr. Tyler Nordgren had a hand in creating the calibration target for the Pancam on the Spirit rover, which also doubles as a sundial. The sundial's face shows rings of the orbits of Earth and Mars, and its sides contain stick figures representing the people of Earth. The word «Mars» is inscribed in 22 languages, and the text «Two worlds, one sun» is written out across its face. There is also a description of the peaceful intent of the mission written on the sundial. Pancam will image the sundial many times during the mission so that scientists can adjust the images they receive from Mars. They use the colored blocks in the corners of the sundial to calibrate the color in images of the martian landscape. Pictures of the shadows that are cast by the sundial's center post allow scientists to properly adjust the brightness of each Pancam image.



Annual YMF Mammoth Snowboarding/Skiing Trip

By: Rafael Contreras, P.E.

Once again as the previous years before, I gathered and loaded all my snowboarding gear with anxious anticipation of the hitting the Mammoth slopes. It was that time of the season, the ASCE YMF Annual Mammoth trip has become an annual tradition for me and other ASCE members. Part road trip, part site seeing tour, with plenty of mountain workout sessions there's an adventure to be had on this voyage.

First comes the road trip, the opportunity to gather with some friends and get away from the busy and fast pace working lifecycle. The road trip gives us plenty of time to have meaning fully conversations and get know good friend even better or let new acutance become a friend. Arriving that the snow covered mountain, I open the car door and feel the fresh cold air like a splash of water to my face providing me with a jolt of energy. There are ASCE members of all levels and skill ranges. Mammoth Mountain is so massive that it provides all sorts of trails for novice and experienced riders. The mountain was fully covered with snow but even though trip lines times were sometimes long and the wind was gusting unpredictably everyone made the most of the days riding.

Nothing ends a day of snowboarding or skiing better than a nice hot meal in a warm ASCE rented cabin. Volunteers staying at the cabin help one another to prepare a wonderful home cooked style meal for the group. Everyone is welcomed to break bread and share snowboarding stories from their day. On the first night of the trip all ASCE YMF groups from southern California meet at a local pub, providing ASCE members the opportunity to meet and network with another.

I encourage everyone to come out at least one year and give Mammoth Mountain a try. Whether or not you conquer the mountain, you will make new friends and a lasting experience. Hopefully I get to see some new faces next year!



ASCE Continuing Education Seminars and Workshops

Spring 2013 – Summer 2013

Geographic Services is proud to announce the Continuing Education Schedule of seminars and workshops for Spring/Summer 2013 in your geographic area. These seminars/workshops have been produced by ASCE’s Continuing Education Department with your members in mind. This new schedule is shown below and for more information on these exciting educational workshops, please follow:

<http://www.asce.org/Regions-Sections-Branched/Region-9/Links/Links/>

SPRING 2013 -SUMMER 2013 ASCE Continuing Education Seminars and Workshops

May 2013	Full Date	City/State	Tech Div.
Pipe Selection for Municipal Facilities	May 2-3, 2013	Los Angeles, CA	H
June 2013	Full Date	City/State	Tech Div.
Seismic Hazard Evaluation and Mitigation Using Simple Methods	June 17-18, 2013	San Francisco, CA	S
July 2013	Full Date	City/State	Tech Div.
Pumping Systems Design for Civil Engineers	July 11-12, 2013	San Diego, CA	H
August 2013	Full Date	City/State	Tech Div.
Seismic Design of Liquid-Storage Tanks	August 2, 2013	San Diego, CA	S
September 2013	Full Date	City/State	Tech Div.
Structural-Condition Assessment of Existing Structures	September 5-6, 2013	Sacramento, CA	S
Design of Foundations for Dynamic Loads	September 11-13, 2013	San Diego, CA	S/G
Ownership Transition Planning: Company Valuations and Strategic Planning	September 12-13, 2013	San Francisco, CA	M
Earth-Retaining Structures: Selection, Design, Construction, and Inspection—Now in an LRFD Design Platform	September 19-20, 2013	San Diego, CA	G/S/C

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If you'd like to have your business card or company information listed in the Professional Directory, Please Contact: The Branch Treasurer, John B. Rogers at 951.698.1830, or email at jrogers@cleengineering.com

# March 2013

- March 6 Section Infrastructure Symposium at Los Angeles Union Station
- March 15 YMF Student Night and Job Fair at Los Angeles Athletic Club
- March 20 Branch General Meeting at Old Spaghetti Factory Rancho Cucamonga
- March 30 YMF Community Service at Riverside Art Museum
- April 12 YMF PE Booth at Pomona Fairplex

## Membership Information

Type of Membership and Annual Dues (National)

|                               |                                                                                                              |
|-------------------------------|--------------------------------------------------------------------------------------------------------------|
| <b>Students:</b>              | Free                                                                                                         |
| <b>Associate Member:</b>      | \$50 year of baccalaureate Degree and first year after, Then incremental increases to \$205 over five years. |
| <b>Member:</b>                | \$205 annually                                                                                               |
| <b>Affiliate:</b>             | \$205 annually                                                                                               |
| <b>Section (Branch) Dues:</b> | \$45/year                                                                                                    |

1. National ASCE Student Membership is now FREE! Those who have chapters or clubs still must be a member of them before joining National. Log onto <https://www.asce.org/online/> fill out the short application and instantly become a member of ASCE or call 1-800-548-ASCE (2723)

2. Online Membership renewal available, go to <https://www.asce.org/renewal/inforenewal.cfm>. You need your membership number, all payments must be made with a major credit card. An e-receipt is transmitted to the member upon completion of the transaction.

## NEWSLETTER INFORMATION

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