May. 2014

Los Angeles Section

Monthly: *Est. 1913*

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PRESIDENT'S MESSAGE

Yazdan Emrani, P.E.
Los Angeles Section President

Earthquakes and Lessons Learned

We live in a state where most of it is classified as seismically active. In fact, did you know that we have had almost 600 earthquakes in the Greater Los Angeles area in the past year? If you check the Southern California Data Center's web site for earthquake, http://www.data.scec.org/, you will discover that there are minor tremors going on almost constantly somewhere in California. "Lower" magnitude earthquakes usually don't make the news in California, unless you are the anchorperson of a news show when an earthquake hits. This was the case on March 17th when a 4.4 magnitude quake hit close to Encino and the reaction of KTLA's anchor went viral. Another quake, this time a 4.1 magnitude hit close to Rowland Heights on March 29th and its impact was felt all the way into Orange County. When we get these types of events in relatively short periods of time, people inevitably start discussing the possibility of the "Big One" hitting California.

The "Big One" is a potential earthquake of magnitude 8 or greater that is expected to happen along the San Andreas Fault. Such a quake will produce devastation to within about 50-100 miles of the Andreas Fault quake zone, especially in urban areas like Palm Springs, Los Angeles, and San Francisco.

No one knows when the Big One will happen because scientists cannot yet predict earthquakes with any precision. The 1906 San Francisco quake (magnitude 7.8) and the 1857 Ft. Tejon quake (magnitude 7.9) took place in northern and central California, respectively, and both were considered 'Big Ones'. Some scientists think the next big quake will be in southern California. The San Andreas Fault passes through LA's three main transportation, power, and utility corridors in southern California: I-10 in San Gorgonio (Banning) Pass, I-15 in Cajon Pass and I-5 in Tejon Pass.

But what is going to happen to our infrastructure if we get hit with a large magnitude quake? How is our infrastructure going to respond? There is a scenario or script that USGS has come up with for this event which goes something like this: "In less than two minutes, Los Angeles and its sprawling suburbs are shaking like a bowl of jelly. The jolt from a potential 7.8-magnitude temblor may last for three minutes; 15 times longer than the disastrous 1994 Northridge quake. Water and sewer pipes crack. Power fails. Part of major highways break. Some high-rise steel frame buildings and older concrete and brick structures collapse. Hospitals are swamped with 50,000 injured as all of Southern California reels from a blow on par with the Sept. 11 attacks and Hurricane Katrina. The potential cost in damage to the economy could be $200 billion plus, including as many as 1,700 dead." Furthermore, USGS' scenario states that "Only a portion of those people are victims of building collapses. Many others are lost to the many fires burning across the region; too many for firefighters to tackle at once." More on this later.

By the way, the figures are based on the assumption that responsible jurisdictions at the state and local level take no continued action to retrofit buildings, infrastructure or update emergency plans.

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VOL. XLXVI NO. 5

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Institute Update
Los Angeles Section Geo-Institute Local Chapter

by: Kartik Atyam, LAGI Secretary

The ASCE Los Angeles Geo-Institute (LAGI) hosted or co-hosted 7 dinner presentations over the 2013 calendar year in addition to its annual Queen Mary Spring Seminar (QMSS). The presentation topics ranged from Pile Foundations in Liquefied Soil to Microtunneling in Difficult Ground, which was attended by engineers, students, and professors from Ventura County to San Diego County. Co-hosted presentations were organized with ASCE Younger Members Forum and The Association of Engineering Geologists.

The 2013 QMSS was headlined by **Dr. John T. Christian**, who was honored as the Ken Lee Memorial Lecturer. He spoke about "Failure and Reliability of Large Projects". The afternoon lecturers included **Dr. James Martin** and **Mr. Jerry DiMaggio**. Dr. Martin discussed "Recent Earthquake Ground Improvement Case Histories" and Mr. DiMaggio focused on "Application of the Load Resistance Factor Design Platform to Geotechnical Features (Fact of Fiction)".

The 2013 QMSS was supported by Gregg Drilling, AGI, Middle Earth Drilling, and many other companies. Our sponsors were able to interact with local practitioners, professors, students, and local and state officials. The attendees also networked with each other over coffee breaks and dinner while on the historic Queen Mary ocean liner docked in Long Beach.

LAGI is excited to present the 2014 QMSS on April 16, 2014. The 10th annual Ken Lee Lecturer will be **Dr. Robert D. Holtz** who will discuss "Geosynthetic Reinforced Soil: From the Experimental to the Familiar". The afternoon lecturers are **Dr. Craig H. Benson** and **Dr. Thomas L. Brandon** who will discuss "Adverse Geochemical Interactions in Bentonite Barriers: Novel Solutions Using Bentonite-Polymer Composites" and "Use and Measurement of Fully Softened Shear Strength in Design", respectively. The focus for this year's event is geo-environmental concerns.

Our bi-monthly dinner presentations include a variety of topics from local and national practitioners and professors. Our most recent dinner talk was by **Professor John McCarthy** from the University of Colorado, Boulder. He presented his continuing research on Pile Load Conditions for Geothermal heat exchangers. He discussed the importance of taking temperature effects into consideration during the design phase of the project for heat exchangers and for any deep pile.

Upcoming dinner meetings will be held at Steven's Steakhouse, centrally located in City of Industry. LAGI is excited to host presentations by **Dr. Tarek Abdoun**, **Dr. Tim Stark**, and many others during the 2014 calendar year.

LAGI will host the 12th annual International Symposium on Geo-Disaster Reduction in the USA for the first time. The symposium will be held at Cal State Fullerton on September 5-6, 2014. The deadline for submitting abstracts to the organizing committee is June 15, 2014.

LAGI is always looking forward to practitioners, academics, and local and state agency representatives to get involved with the group. LAGI will have a position available on the board this September. Please feel free to contact the LAGI Secretary, **Kartik Atyam**, at atyamk@gmail.com if you are have any questions. Also, please visit our website for more information on upcoming meetings and past presentations – www.lageoinstitute.com.

L.A. Section Geo-Institute Board Speakers and Volunteers at the annual Queen Mary Spring Seminar

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In the past, USGS has reported that the Golden State has a 46% chance of a 7.5 or larger quake in the next 30 years, and that such a quake probably would hit Southern California. The Northridge quake, which killed 72 people and caused $25 billion in damage, was much smaller at magnitude 6.7. "We cannot keep on planning for Northridge," said USGS seismologist Lucy Jones. "The science tells that it's not the worst we're going to face."

One of the scarier scenarios is what happens to dams and reservoirs in a catastrophic earthquake. In 1994's Northridge earthquake it was the Van Norman Reservoir that failed. For those living in the Santa Clarita area, there may be an even bigger concern with two reservoirs (Bouquet Canyon and Castaic Reservoir) being so close to the Palmdale fault line.

By comparison, in Northern California, Silicon Valley's main water provider faces a difficult choice; risk catastrophic flooding if a major earthquake strikes its largest dam or drain millions of gallons of water from the reservoir behind it to make repairs. Santa Clara Valley Water District says it has little choice but to drain Anderson Reservoir: State and federal officials have ordered that the dam must be seismically retrofitted by 2018, and to meet that deadline the work must start next year. A complete failure of Anderson Dam when the reservoir is full could send a 35-foot wall of water into downtown Morgan Hill, a suburb of San Jose, within 14 minutes. The waters would be 8-feet deep in San Jose within three hours, potentially killing thousands. Repairing the dam will cost $193 million and take three years.

Municipal water and sewer lines were installed as much as a century ago. They are decaying and would break in a quake. We increasingly rely on the Internet and cellular telephone technology for communication, and there is no guarantee those would be up after a big earthquake because there's no legal requirement that cell towers be seismically strong. It's not just personal communication; grocery stores and others use the Internet for their stocking and ordering. Plus the warehouses that store food in the Inland Empire are far from the urban core, and roadways would be at risk.

But, what about gas lines? On September 9, 2010, a huge explosion occurred in a residential neighborhood of San Bruno, a suburb of San Francisco. This caused a fire, which quickly engulfed nearby houses. The blaze was fed by a ruptured gas pipe, and it took 90 minutes to shut off the gas after the explosion. The explosion and the resulting fire leveled 38 houses and damaged many more. About 200 firefighters battled the eight alarm fire that resulted from the explosions. The explosion created a crater 167 feet long, 26 feet wide and 40 feet deep. The explosion compromised a water main and required firefighters to truck in water from outside sources. The death toll was eight people. This is one example of an old gas main that ruptured causing fire and tremendous damages as well as keeping a large contingent of fire fighters busy. In the case of a Big One, imagine this scenario multiplying throughout our region. Scary? Yes. Should we panic, No. Do we have a lot of hard work before us? Absolutely. There are some obvious vulnerabilities in our overall infrastructure.

In my opinion, when it comes to being earthquake ready, repair or retrofit of the gas lines has to come first. And hopefully the Gas Companies in California have embarked on that process already. Additionally and as identified in ASCE's 2012 California Infrastructure Report Card as well as a multitude of other regional infrastructure report cards, we as civil engineers have identified the vulnerabilities in our infrastructure and what it takes to fix them. However, the question becomes, is there the collective "will power" to move on this issue or do we want to "kick the can" further down the road.

The bottom line is, this is not a question of if the "big one" will happen, but when? Therefore, it is up to the collective "us" how we want to remmeber the "big one"; i.e. a) The quake that made the USGS' worst case predictions come through or b) the quake that magnitude-wise resembled the "big one", but damge-wise was not as bad because of all the proactive hard work that Southern California cities and agencies had put into their seismic readiness." I personally prefer the latter, and am curious to see what kind of efforts local cities and agencies have undertaken to address this issue. So, if you work for a city or agency drop me a line and let me know about your seismic retrofit projects. I will feature couple of them in next month' issue of the newsletter.

Bi-Monthly Board Meetings

Day: 2nd Friday of February, April, June, August, October, and December
Time: 7:30 am – 10:00 am
Location: ASCE LA Section Office, 1405 Warner Ave., Ste B., Tustin, CA 92780

Everyone is welcome

State Investments and Legislative Update

by Richard Markuson, CA Region 9 Legislative Advocate

Aside from the indictment of several Legislators, the big news from Sacramento is some progress on placing a revised water bond on the November ballot. While the Brown administration hasn't publicly engaged, most in the Capital believe that AB 1331 by Assembly Water Committee chair Anthony Rendon will be the probable vehicle.

The Association of California Water Agencies (ACWA) opposes AB 1331, arguing that the bond should have more funds for Delta sustainability, similar to that in the current 2014 bond, and that storage funds should be continuously appropriated to the California Water Commission. The continuous appropriation will be essential to secure Republican Legislator support. Some believe that without this feature, the opponents to new storage will withhold funding in future years.

AB 1331 contains:
- $1 billion for maintaining and improving drinking water quality;
- $1.5 billion to protect rivers and watersheds;
- $1 billion for integrated regional water management that will improve regional self-reliance and reliability;
- $1 billion for recycling and conservation projects;
- $1 billion to protect the Delta as a critical element of the state water supply system and a key ecological resource; and
- $2.5 billion for surface and underground water storage projects.

The Sacramento Bee pointed out "Time is of the essence. By law, the Legislature and the governor must pass a new bond by June 26 to replace the earmark-laden 2009 bond deal that is on the November ballot. Stakeholders and legislators have been meeting for more than nine months on various issues that are addressed in AB 1331."

The Bee's Dan Walters observed AB 1331 was "on the receiving end of sharp criticism from the Senate water committee's chairwoman, Sen. Fran Pavley, other senators and representatives of stakeholders in the notoriously fractious issue." He summed up "everyone involved acknowledges that writing a final version of a 2014 bond issue that can achieve a two-thirds legislative vote and gain Brown's approval will be a very tough slog at best."

Recent Reports

The Legislative Analyst's Office (LAO) released its report, "The 2014-15 Budget: State Worker Salary, Health Benefits, and Pension Costs," outlines budget proposals for scheduled pay increases, rising health and pension benefit costs, and proposed increases in the number of state positions, also highlights historical trends of state employee compensation costs and state worker take-home pay and recent decisions made by the California Public Employees' Retirement System concerning actuarial assumptions.

The California Research Bureau has released its short subject, "Hydraulic Fracturing in California: An Overview," provides history of the oil and gas recovery technique, says the biggest hydraulic fracturing project in California to date was an experimental operation conducted in 1978 by Tenneco Oil Co. and Halliburton Services, says the companies used 500,000 pounds of specially-prepared bauxite and a series of pressurized pumps in the Paloma field, southwest of Bakersfield.

The LAO released its report, "The 2014-15 Budget: Transportation Proposals," finds Governor's proposed $16.7 billion for transportation funding in 2014-15 is $560 million, or 3.2%, below estimated expenditures for current year.

Caltrans released "2010-2012 California Household Travel Survey Final Report," finds that "nearly 23 percent of household trips were taken by walking, biking, and public transportation," a figure that has more than doubled since 2000.

The Delta Stewardship Council released "2013 Year in Review," highlights some of its accomplishments in implementing the Delta Plan and other provisions of the Delta Reform Act.

The LAO released "The 2014-15 Budget: Changes to a Local Infrastructure Financing Tool," analyzes Governor's proposed changes to infrastructure financing districts to assist local governments with funding development projects. And released the following hearing handouts: "Improving Management of the State's Groundwater Resources," presented to Assembly Water, Parks and Wildlife Committee and Assembly Budget Subcommittee No. 3 on Resources and Transportation; Funding for High Speed Rail Project.

Public Policy Institute of California has released its report, "Paying for Water in California," finds California's water system "faces funding drought" of $2 to $3 billion per year that's needed to pay for making drinking water safe in rural areas, improving flood protection, restricting run-off pollution and protecting aquatic ecosystems.

The Environmental Protection and Health and Human Services Agencies have released the "Drinking Water Reorganization Transition Plan," describes "proposed transfer of the Drinking Water Program, currently under the California Department of Public Health, to the State Water Resources Control Board."

ARTICLE

Message From the Membership Committee

By Brad Dybel, PE, GE, CEG, Chair of Membership Committee, ASCE Los Angeles Section

Aren't we civil engineers fortunate to work in Southern California in the springtime? I mean – isn't this the time of year when everyone yearns to get out of the office to do interesting civil engineering field work at our coastal ports, and at our desert highways, and at our mountain reservoirs? Isn't this the time of year when we need to sign up ASAP for our ASCE field trips, or risk being left out when the field trips sell out?

And isn't this the most exciting time of the year to watch those bright-eyed, civil engineering students - whom we professionals have mentored for so long – graduate, and join the civil engineering staffs in our organizations? Don't we look at these students and try to imagine the new innovations that they will bring to the civil engineering world, and the ways they might realize their own Vision of Civil Engineering in the year 2025?

And so, with those wonderful thoughts in mind, your Membership Committee turns its focus to encouraging, not just student members, but all eligible ASCE members, to upgrade their ASCE membership status. Your Membership Committee urges all the Younger Member Forum members in our Section to take the lead with the Student Members. Visit your alma maters, and describe to the students all the opportunities in ASCE for professional growth, all the opportunities in ASCE for continuing education, all the opportunities in ASCE to develop strong professional networks, and all the opportunities in ASCE to practice and develop leadership skills. Encourage the graduates to upgrade their ASCE membership status FOR FREE from Student member to Associate or Affiliate member, and to take advantage of the dues discounts that ASCE established especially for them. Your Membership Committee also urges ASCE Members, ASCE Life Members, and ASCE Honorary Members to support these energetic, young leaders in ASCE in their quest to become the true champions who will lead the Los Angeles Section through its second glorious century.

If we civil engineers work hard - together - as a team - in ASCE – then this Section's second century will be even greater than its first. All civil engineers who wish to fulfill their potential in ASCE should visit ASCE's website at www.asce.org for additonal information, and to contact your Los Angeles Section Membership Champion Brad Dybel by telephone at (949) 291-5291.

ARTICLE

2014 ASCE Region 9 Infrastructure Symposium and Awards Banquet

by: Brent Siemer, P.E., F.ASCE, ENV SP Event Chair

On March 14th, Region 9 and the San Francisco Section co-hosted this year's Infrastructure Symposium and Awards Banquet on the waterfront at the Delancey Street Foundation with over **200 in attendance.**

The morning keynote speakers were Jason Albritton, EPW Committee Senior Policy Advisory for California State Senator Boxer who provided a federal perspective on transportation and water infrastructure and S. Bry Sarte' P.E., Sherwood Institute, who provided perspective on Sustainable Infrastructure. During the lunch hour, Jim Mercurio, VP, Stadium Operations for the San Francisco 49rs presented the "Levi Stadium Transportation Plan" to provide safe and efficient access to all events by car, bus, BART, Caltrain and on foot.

The symposium included two full-day tracks on water and transportation. Both tracks featured engaging discussion by a broad array of panelists from State and local governments, national agencies, engineering firms and the private sector.

The Water Track covered four topics on Regional Water Projects, California Bay Delta, Water Sustainability and Public Private Partnerships.

The Transportation Track was divided into Current Regional Transportation Projects, Ports and Waterways "Goods Movement in the 22nd Century", Future Vision for Regional Transportation and Tunnel Projects.

Later that evening, **240 attended** the annual **Region 9 Awards Banquet** with presentations to 22 project and 17 individual award winners.

The Lifetime Achievement Award was presented to Thomas Morgan, P.E. Mr. Morgan has been a Registered Civil Engineer since 1953. He worked on the Central Valley Project, the construction of Santa Felicia Dam, and many projects for the County of Ventura from 1956 to 2012, where he was Chief Engineer (Deputy Director of Public Works) from 1956 to 1991. He served ASCE as President of the Santa Barbara-Ventura Branch of the L.A. Section, Chairman of the Local Qualifications Committee, and the ASCE delegate to the Associated General Contractors (AGC). For 20 years he was an active member of the APWA-AGC Green Book Committee, serving as secretary and chairman. He is a graduate of the California Maritime Academy and University of Southern California.

Project of the Year was awarded to the **San Francisco-Oakland Bay Bridge East Span**. Engineers of Record were Caltrans, T.Y. Lin International, Moffatt-Nichol, Parsons Brinckerhoff, AECOM and WKE. Building the new East Span of the Bay Bridge has produced many firsts. The Self-Anchored Suspension Span, at 2,047 feet, is the longest bridge of its kind in the world. This is the first suspension bridge without a connection between the road-decks and the tower. It is the first to use fusible shear links in its tower to protect the tower shafts during an earthquake, and its tower has the world's largest cable saddle for a suspension bridge. The new bridge was designed to meet the most stringent earthquake standards and to act as a regional lifeline structure, opening to traffic within a day or two after the strongest ground motions that engineers expect in a 1,500-year period.

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PROJECT AWARDS

Outstanding Project Awards

Project of the Year: **San Francisco-Oakland Bay Bridge East Span**, Owner: Caltrans, Engineers: Caltrans, T.Y. Lin International, Moffatt-Nichol, Parsons Brinckerhoff, AECOM, WKE

Airports & Ports Project: **Brannan Street Wharf Project**, Owner: Port of San Francisco, Engineer of Record: GHD Inc. and Structus, Inc.

Architectural Engineering Project: **Newport Beach Learning Center**, Owner: Coastline Community College District, Engineer: LPA, Inc.

Bikeways & Trails Project: **Stevens Creek Trail Reach 4 Segment 2**, Owner: City of Mountain View, Engineer of Record: Mark Thomas & Company

Bridge Project: **Mike Gotch Memorial Bridge**, Owner: City of San Diego, Engineer of Record: T.Y. Lin International

Community Improvement Project: **7th & H Street Housing Community**, Owner: Mercy Housing California, Engineer of Record: Miyamoto International, Inc.

Construction Project: **Crestmoor Neighborhood Reconstruction**, Owner: City of San Bruno, Engineer of Record: BKF Engineers

Energy Project: **Sunrise Powerlink Project**, Owner: San Diego Gas & Electric Company, Engineer of Record: Burns and McDonnell

Environmental Engineering Project: **Alum Rock Fish Passage**, Owner: Santa Clara Valley Transportation Authority, Engineer of Record: GHD, Inc.

Flood Management Project: **Upper Yuba Levee Improvement Project**, Owner: Three Rivers Levee Improvement Authority, Engineer of Record: HDR, Inc.

Geotechnical Engineering Project: **Sunrise Powerlink Project Geotechnical and Geologic Hazards Investigations**, Owner: San Diego Gas & Electric Company, Engineer: URS Corporation

Historical Renovation Project: **UC Berkeley Memorial Stadium Seismic Upgrade**, Owner: University of California, Engineer of Record: Forell/Elsesser Engineers, Inc.

Museum/Educational Project: **The Exploratorium**, Owner: Exploratorium, Engineer of Record: Rutherford and Chekene

Parks & Recreation Project: **Echo Park Lake Rehabilitation Project**, Owner: City of Los Angeles, Department of Public Works, Bureau of Engineering, Engineer of Record: Black & Veatch Corporation

Roadway & Highway Project: **Tom Lantos Tunnels**, Owner: Caltrans, Engineer of Record: HNTB

Small Project: **Harbor Drive Failed 48' SMH at 32nd and Harbor Emergency Repair**, Owner: City of San Diego, Engineer: Harris & Associates

Structural Engineering Project: **USC John McKay Center**, Owner: University of Southern California, Engineer of Record: John A. Martin & Associates, Inc.

Sustainable Engineering Project: **Elk Grove Rain Garden Plaza**, Owner: City of Elk Grove, Engineer of Record: Willdan Engineering

Transportation Project: **Metro Orange Line Extension**, Owner: Los Angeles Metro – LACMTA, Engineer of Record: Iteris and AECOM
Urban/Land Development Project: Civita, Owner: Quarry Falls, LLC, Engineering: Rick Engineering Company

Water Project: **Pala Mesa Tank**, Owner: Rainbow Municipal Water District, Engineer of Record: Infrastructure Engineering Corporation

Wastewater Treatment Project: **Atwater Regional Wastewater Treatment Plant**, Owner: City of Atwater, Engineer of Record: West Yost Associates

INDIVIDUAL AWARD RECIPIENTS

Lifetime Achievement Award: **Thomas Morgan, P.E.**
Outstanding Civil Engineer in the Public Sector: **Xavier J. Irias, P.E.**
Outstanding Civil Engineer in the Private Sector: **Louay M. Owaidat, P.E.**
Outstanding Civil Engineer in Community Service: **Andrew Easterling**
Outstanding Civil Engineer in Legislative Activities: **Phillip Davies, P.E.**
Outstanding ASCE Section Officer: **Brad Dybel, P.E.**
Outstanding Branch Officer: **Mario Carreon, P.E.**
Outstanding ASCE YMF Officer: **Ravi Shah, P.E.**
Outstanding ASCE Practitioner Advisor: **Caroyln Berg**
Outstanding ASCE Faculty Advisor: **Rupa Purasinghe, Ph.D., P.E.**
Outstanding ASCE Life Member: **Steve Dalrymple, P.E.**
Outstanding ASCE Life Member: **Timothy Stanton, P.E.**
Outstanding Younger Civil Engineer: **Rachel Coyner**
Outstanding Younger Civil Engineer: **Lise Muco, P.E.**
Outstanding Civil Engineering Student: **Elizabeth Jachens**
State Legislator of The Year: **The Honorable Doris Matsui**
Excellence in Journalism Award: **Thomas Curwen, Los Angeles Times**

For a complete listing of the award winners, please go to the Region 9 website: http://www.asce.org/region9/awards/

The Infrastructure Symposium and Awards Banquet would have not been a success without the following sponsors:

Symposium Sponsors
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April 2, 2014

Eric Kasper, Ph.D.
ASCE Student Chapter Faculty Advisor
California Polytechnic State University, San Luis Obispo
Dept. of Civil & Environmental Engineering
San Luis Obispo, CA 93407

RE: 2014 ASCE and Distinguished Chapter Award for Region 9
2014 Ridgway Finalist

Dear Dr. Kasper:

It is my pleasure to inform you the California Polytechnic State University, San Luis Obispo ASCE Student Chapter has been awarded the 2014 ASCE Distinguished Chapter Award for Region 9 by the ASCE Committee on Student Members. This award is made annually to the most outstanding Student Organization in your Region. Your Student Chapter was recommended for this award by the Committee on Student Members based on activities recorded in the Student Chapter's 2013 annual report.

I am also pleased to note the California Polytechnic State University, San Luis Obispo Student Chapter was a Robert Ridgway Award Finalist this year. This is quite an accomplishment, as this distinction was earned only four out of 304 ASCE Student Chapters. Plaques acknowledging your Student Chapter's achievements are being sent to your Region Director, Jennifer Epp. Please contact Ms. Epp to arrange for these awards to be presented to your Student Chapter.

On behalf of the ASCE Committee on Student Members, congratulations to the Student Chapter officers and members, to the Practitioner Advisors, and to you as Faculty Advisor. In particular, the Society recognizes and sincerely appreciates your personal contribution, enthusiasm, and hard work, which result in outstanding Student Organization programs such as yours.

Sincerely,

Leslie Payne

Leslie Payne, Aff.M.ASCE
Director, Student and Younger Member Programs

cc: Rakesh Goel, Ph.D., P.E., F.ASCE, Chair, Civil & Env. Engineering Department
Jennifer Epp, P.E., M.ASCE, Director, Region 9
Yazdan Emrani, P.E., M.ASCE, President, Los Angeles Section

Response to ASCE LA Section March 2014 Newsletter – Response to President's Message

by: Neil M. Jordan, P.E., D.WRE, Civil Engineer

Regarding your President's Message in the March 2014 LA Section newsletter inviting thoughts about "current and future weather related challenges", my first impression was that I had read a similar front page article 25 years ago in the Health Physics Society Environmental Radiation Section newsletter (What Greenhouse???", March 1989). Quoting from the newsletter and paper:

"The most important result of this study is that there is no statistically significant evidence of an overall increase in annual temperature or change in annual precipitation for the contiguous U.S., 1895-1987. Neither is there evidence of change in winter or summer precipitation on the northern plains during that period."

Quoting from the HPS newsletter (emphasis on "data" in newsletter): "This study which deals with data from the atmosphere above one land mass is not necessarily representative of the global atmosphere, most of which is above the oceans. However, it is refreshing to note that the authors examined the data, not the output of a computer model (which is all too frequently called "data"), and compiled an important data set which may be useful for checking some of the models."

The newsletter presciently outlined where manmade global warming issues are today – at the divide between two camps, one focusing on climate models and the other focusing on measurements. Responding to your invitation, if the focus is on climate models, there are an endless number of unprecedented "current and future weather related challenges" that must be addressed soon. If the focus is on measurement data, the present and future challenges are a continuation of the challenges that the engineering profession has successfully responded to in the past.

Depending on the weather data authority, the average temperature has remained about the same (i.e., ceased to increase) for the last 10, 15, 17-1/2 or perhaps more years. The modeling camp sees the increasing gap between theory and measurements as the fault of the measurements; and the measurement camp sees it as the fault of the many overfitted climate models. The UN IPCC at the center of the controversy has issued its latest summary and assessment report (Fifth Assessment Report (AR5) http://www.ipcc.ch/). The summary document appears to favor the computer modeling camp, but at the same time the full report significantly does not continue the previously high estimate of the climate sensitivity to what has been incorrectly called carbon pollution. The full report also states that the sensitivity is higher than any estimates that could be justified by the measurements, and therefore the climate models are all overestimating future temperature. Therefore, for unknown reasons, the model predictions are inconsistent with the data showing failure to warm over at least the past decade.

One of the most common statements is that "science is settled". In the true application of science, for example that espoused by Richard Feynman, science is never settled. If it's settled, it's not science. Quoting Feynman's 1974 commencement address at Caltech that describes the scientific process:
"We've learned from experience that the truth will come out. Other experimenters will repeat your experiment and find out whether you were wrong or right. Nature's phenomena will agree or they'll disagree with your theory. And, although you may gain some temporary fame and excitement, you will not gain a good reputation as a scientist if you haven't tried to be very careful in this kind of work. And it's this type of integrity, this kind of care not to fool yourself, that is missing to a large extent in much of the research in cargo cult science."

In response to alleged cargo cult science, NASA engineers published a paper in February that provides an alternative, lower value for the value assigned to climate sensitivity ("Bounding GHG Climate Sensitivity for Use in Regulatory Decisions", February 2014). Note that these engineers have shown the increasing gap between climate model theory and measured temperature.

How will this be resolved? Your guess is as good as mine. One hint is there are at least three lawsuits between the various parties in court now, related to the hockey stick future temperature conjecture. Jury votes might decide the sciences. I emphasize science in plural, because nothing prevents one jury in one case from deciding in favor of the models and another jury in another case from deciding in favor of the measurements.

To conclude my response to your invitation, my thought is what I stated earlier: The present and future challenges will be continuation of the challenges that the engineering profession has successfully responded to in the past.

ASCE
AMERICAN SOCIETY OF CIVIL ENGINEERS
REGION 9

A Great Idea from the Life Members

The ASCE Life Members' Public Image Committee request that members take their (to be discarded) Civil Engineering magazines to their doctor's office or barber shop and merge them with the stack of magazines. We feel that this will be an effective way to make the general public more aware of what civil engineers do.

National ASCE (800) 548-2723 (ASCE)

Access National ASCE at: www.asce.org

L.A. Section web site at:
www.ascelasection.org

History & Heritage

Celebrating the 100th Anniversary of the Los Angeles Section

Reminder:

Copy deadline for the June 2014 issue is May 1, 2014; copy deadline for the July 2014 issue is June 1, 2014

MATERIALS SUBMISSION INFORMATION

All graphic materials submitted for use in the ASCE newsletter should have all fonts outlined, and links included; EPS or PDF files preferred. Other formats are Adobe InDesign or Adobe Illustrator (any version); additional acceptable file formats are JPEG or TIFF files (minimum 300 dpi). Images embedded in Microsoft Word documents should be sent separately, at a minimum resolution of 300 dpi at the display size desired. Collected files, including links and fonts, should be compressed and e-mailed, or sent on CD or Zip disk (provide return address). Business cards can be submitted electronically as well, or send clean, crisp, B&W laser print, unfolded. This publication's size is 8½" × 11".

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