# Jul/Aug '15

### VOL. LV NO. 7

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# Los Angeles Section

Monthly: Est. 1913

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PRESIDENT'S MESSAGE

Kenneth H. Rosenfield, P.E., F.ASCE Los Angeles Section President



# Hello! Are your there (to help your profession with legislative advocacy)?

In a previous ASCE Los Angeles Section Newsletter article, "Leading on Local Infrastructure," April 2015, I reviewed with you the overall ASCE work to inform and educate the public and elected officials about the poor condition state of our infrastructure and the resulting conversations taking place to advocate for change. As Civil Engineers, and members of ASCE, we are bound by the basic premise that our work is to, first, protect the public safety, and, second, to improve the

quality of life of all peoples. When we identify a shortfall in public policy or funding of public infrastructure that adversely impacts the public, it is our duty to speak up and share our knowledge and experience about infrastructure. As a Civil Engineer, you are, de facto, an expert in infrastructure. Hence, you are the voice of expertise, professionalism and reason in the public debate on the expenditure of proceeds of taxes on the variety of priorities of the Nation, State and Local Communities. The only question is, will You participate?

It is understandable that since some of us do not directly work with public infrastructure in our daily Civil Engineering duties, participation in the public discourse about public policy and the funding of public infrastructure is not something that you feel comfortable discussing or are motivated to address. But, we all drive on public roadways, and you see their deterioration every day, we all utilize public utilities, and you expect them to work every time, and our children attend public schools that are in sore need of maintenance. You do have the basis to participate in this discussion and you are uniquely qualified to do so. ASCE has many resources to help you become conversant in the infrastructure topics and they can be searched out at ASCE.org. In the same article mentioned above, I also extolled you to join the Key Contact program to get started in legislative advocacy. Did you do that? If not, please do so today!

Here is the issue of concern – we are not making our voices heard and we, and our community, will suffer the consequences. Case in point: The ASCE Region 9 Board of Direction, on the recommendation of the Region 9 Transportation Committee, has taken a support position on Senate Bill 16 (SB16) currently offered by Senator Jim Beall (he represents the San Jose area). SB16 will raise revenue to support our streets and roads maintenance including those facilities in the Los Angeles Section. Specifically, SB16 would raise the State gasoline tax, which has not been raised in over 21 years, by 10 cents per gallon and makes minor increases to other fees. While, this updated revenue stream will only garner about one-third of the funding gap needed to preserve all the public roads in the State, it is a good start. Given this opportunity to bring the Gasoline tax in line with the economics of construction and enhance the revenue stream for this infrastructure, the Region 9 Transportation Committee requested that the ASCE Washington, D.C. office help us with an email blast to all of our members to encourage support of SB16. This is needed because SB16 still has to be approved by the entire State

# Cal Poly Pomona ASCE Week





The Cal Poly Pomona Student Chapter set aside the week of May 18th to hold ASCE activities, recruit new membership and to reinforce the benefits of participating in ASCE. As a part of these activities, a panel discussion was held on May 21st with ASCE leaders about their path into ASCE and the opportunities available to all to join in the future leadership of ASCE. Pictured from left to right are: Mark Swanson, P.E., SB-Riv YMF President, Dominic Stone, Student Chapter President, John Hogan, P.E., Region 9 Governor, Kenneth Rosenfield, P.E., Los Angeles Section President, Eric Aubry, Student Chapter Vice President and Brandon Reyes, P.E., SB-Riv Branch President.



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PRESIDENT'S MESSAGE continued from page 1

Senate and then be processed through the State Assembly before it can get to the Governor to be signed into law. The likelihood of the approval of a new tax is low unless the public demands that action.

The email blast to support SB16 was issued in the simple format of the Key Contact program which then only required you to open the email and approve it for an automatic direct email to your elected official. I have been told that as little as 30 emails in support of a legislative action can be sufficient to sway the vote of the elected official. In this case, ASCE sent the email blast to almost 12,000 ASCE members throughout the State. Encouragingly, about 18% of you opened the email but, only 33 of you sent the email to your elected official. That's right, out of 12,000 ASCE members asked to send an advocacy note to their legislator with a few clicks and taps on the computer, only 0.28% acted. We can and must do better! We are the stewards of infrastructure and our views must be expressed. ASCE has recognized that grass roots advocacy requires training and an information exchange. In this regard, at the Society level, there is a State - Government Relations Committee that monitors this advocacy and there is a new program to train "State Advocacy

Captains." Annually, about a dozen volunteers will be offered the opportunity to participate in this training. In our local area, I, Mojgan Hashemi and Ravi Shah have each been trained. At the State level, Region 9 is also committed to training interested Civil Engineers in legislative advocacy and most recently held the Sacramento Flyin during which 33 volunteers received training and then went to the Capitol to meet with legislators and their staff members. And, locally, the Los Angeles Section has an active Government Relations Committee led by Mojgan Hashemi. This Committee will be hosting a 3/4ths day training on October 2, 2015, to be held at the Los Angeles Metropolitan Transportation Commission offices. Watch for an announcement and details to follow for this training, entitled "The Path Forward - Infrastructure Advocacy for the 21st Century in California." The training is expected to include staff presentations from the Society as well as local leaders and elected officials. If you want to get involved in advocacy, please plan to attend this training event.

Our next Newsletter will be in September. Please have a safe and enjoyable summer! And, as always, your comments and suggestions are invited.



# Engineers, unless we wave our arms a bit we'll never inspire the next generation



by Dr Hugh Hunt (Reprinted from the The Guardian, June 18, 2015)



Dr. Hunt filming in Cambridge. Public engagement through TV shows and speaking to schools is just as vital as journal articles and research.

Photograph: Dr. Hugh Hunt

Picture the scene. We're filming a TV documentary called Dambusters: Building the Bouncing Bomb, doing the first test drop of our "bomb". But when the drop cable gets badly tangled, filming grinds to a halt and it looks like the show may be cancelled. Ian, the director, is pacing around with his phone in hand, all very glum. Meanwhile, I'm sitting down poring over all the camera angles of the failed drop. It doesn't take me long to figure out what went wrong, and I suggested a solution that, thankfully, worked. Later Ian asked, "How were you so relaxed when we were all convinced it was a disaster?"

I am an engineer, and problem-solving is in my DNA. Engineers simply relish a challenge, and the harder it is to solve, the better! Despite the fact that engineering has shaped our world, many people are unaware of its impact. I might ask you about the room that you're sitting in – do you see any engineering around you? Is there a pen on the table, a kettle boiling or lights switched on? You're almost certainly carrying a smartphone, and you may be wearing clothes made with synthetic fibres, or have taken transport today. If so, then you are surrounded by engineering!

So why don't we celebrate it more? Well, too often, engineering hits

the headlines only when there's bad news – for example, the recent serious accident on a rollercoaster. The reality is that engineering has countless positive stories to tell – Crossrail is Europe's biggest ever infrastructure project, and at the Large Hadron Collider, engineers outnumber physicists. And what about Rosetta and Philae, landing on a comet ... spine-tingling! By shouting about engineering only when things go wrong, we leave people with the impression that engineers can't get anything right. And with gloomy forecasts of a skills shortage in engineering, these outdated, negative perceptions of engineering are affecting our ability to recruit and retain the next generation of engineers.

Engineering's greatest strength is its diversity, but is also perhaps its biggest challenge. I've been very lucky to work on a wide range of projects in my career, from making plastic bags (which, believe it or not, is a truly amazing technology) to finding ways to help cool our planet using reflective particles in the atmosphere. My colleagues at Cambridge University's Engineering Department work on amazingly diverse topics, like wirelessly-charged electric buses, bioengineering and nanotechnology. For hundreds of years, the work of engineers has shaped our very lives, but right now, it is largely hidden from

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the public's gaze. I hate going to airports – such a disappointment! We see nothing of the remarkable baggage-handling machinery underneath our feet, the screening techniques which keep us safe or the phenomenal technology of the engines that propel us across the Atlantic. Everything is hidden, tucked away neatly behind doors and in shiny boxes, quietly working behind the scenes.

The same could be said for engineers too. Name any big project, and I guarantee you that there are hundreds of invisible engineers in the background just getting on with it. Unless we wave our arms about a bit we'll never inspire the next generation. Maybe we worry that it's nerdy to get excited about technology. Fortunately that word 'nerdy' is changing fast – and we ought to celebrate it. This is why I spend so much time talking to schools and the public; I want to pass on some of the excitement that I feel every day about shaping our world, and to help people see the engineering hiding in plain sight.

When it comes to bringing engineering into schools, I believe that many efforts are too focused on adding it into the standard curriculum, which risks it becoming dull. How about instead we encourage children to see the direct connection to engineering in action – the real-world use of STEM (Science, Technology, Engineering and Mathematics)? I'd particularly like to see closer relationships between schools and local manufacturing hubs. While games like Minecraft are doing a great job of engaging with children, you simply can't beat the experience of going into a factory full of machines and lots of noise – watching a plastic toy or an iPhone case being made will leave a much longer impression than reading about the process.

It is extremely important to get the next generation of scientists, technicians, engineers and mathematicians on the right track – anything we can do to make students realise that these subjects are cool, relevant and interesting to them can only be positive. In wider society, why don't we have jet engine models on display in an airport lounge, or awindow into the engine room on a ferry? By opening up engineering, we'll help people to join the dots about the technologies that affect our everyday lives and open a window to a world to which most children and adults are oblivious.

Those of us who work in academia have a particular responsibility to spread the word and to inspire the next generation. We have some of the world's very best engineering and science departments, filled with skilled communicators. But many of my university colleagues feel that they don't have time to take part in outreach. It's all about how universities measure their output.

In the UK, teaching and research are assessed separately. Teaching quality is assessed by looking at lectures and student interactions. Under the Research Excellence Framework (REF), the impact of research is measured in numbers of publications, journal impact factors, and grant income, with some account for public engagement.

However, when deciding what funding a UK university receives, its teaching quality doesn't count for much – funding is awarded mostly on its research output, which leads us to neglect our primary duty –

education. Yet it's a mistake to think that teaching stops outside the lab or lecture theatre.

I've been involved in developing television documentaries with an engineering focus. Collectively, our TV shows have had somewhere close to 20 million viewers worldwide, yet because they're not publications in a journal or a research output, they don't count as "impact" under the REF. I understand and fully accept that. However, it's not clear as to where this kind of activity is counted – in the current framework for assessing excellence, there is little room for wider outreach. Anyone looking objectively at these sorts of activities can see their value but, as yet, universities don't have a tangible way to recognise that value. I've been fortunate in my department to have been given lots of moral support over the years, and receiving the Rooke Award from the Royal Academy of Engineering has been a huge boost to my call. But not everyone is that lucky.

My plea is to those in government and in the UK's funding bodies to recognise the importance of public engagement, and for universities to find a way to support it. That way, the passionate ambassadors who already work in many faculties will be encouraged and supported to go out and spread the wonderful bug that is engineering. It may be all around us, but if we don't open the door, how will future engineers ever find us?

### Save the Date!

The Annual Los Angeles Section Awards event will be held on October 3, 2015. Sponsorships are available.

Nominations for Awards are now open at ASCELASection.org



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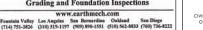


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ARTICLE

# **ASCE Seminar Announcement**

ASCE Geographic Services is proud to announce the Continuing Education schedule of seminars and workshops for spring and summer scheduled in your geographic area. These seminars/workshops have been produced by ASCE's Continuing Education Department with your members in mind.

Program	State	City/State
CM-at-Risk: Contracting for Owners, Consulting Engineers, and Contractors —NEW	June 18–19, 2015	San Diego, CA
Industrial Buildings: Design and Renovation — NEW	June 25–26, 2015	San Francisco, CA
Aluminum Structural Design with the 2015 Aluminum Design Manual —NEWLY UPDATED	July 16–17, 2015	Long Beach, CA
Risk-Based Seismic Design and Evaluation	June 25–26, 2015	San Francisco, CA
Progressive Collapse Mitigation: Practical Analysis Methods and Proven Solutions	August 20–21, 2015	Long Beach, CA
Design and Installation of Buried Pipes	September 10–11, 2015	San Diego, CA

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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  $8\frac{1}{2}$ " × 11".

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