

The 2015 Planning Committee gives our sincerest thanks and appreciation to:

CORPORATE SPONSOR



COMPANY SPONSORS



PROGRAM SPONSOR



FEBRUARY 22-28, 2015

NATIONAL ENGINEERS WEEK
"Engineering New Horizons"



*The San Diego County Engineering Council
& The ASCE San Diego Section Centennial
Presents:*

2015 Awards Banquet
February 27, 2015

Hosted by:
Department of Engineering – USD Sponsor
University of San Diego, California

Corporate Sponsor:



Welcome to the 64th Anniversary of National Engineers Week!

The purpose of National Engineer’s Week (NEW) is to increase awareness of engineering’s contributions to our quality of life as it unites engineers and the public in a celebration of innovation and technology.

Fun Fact: National Engineers Week is always celebrated around George Washington’s birthday. Our nation’s first president was a military engineer and a land surveyor.

The local NEW San Diego 2015 Planning Committee involves over a dozen individuals representing over 10 San Diego organizations participating in the planning and projects. The San Diego County Engineering Council (SDCEC) sponsors NEW San Diego with representatives from over 20 societies, with members from these and other societies serving on the local planning committee. The American Society of Civil Engineers (ASCE), celebrating their 100th Anniversary, is the local General Chair. The California Society of Professional Engineers (CSPE-SD) is the local Secretariat. The Chairs of the various committees for NEW San Diego 2015 are drawn from ASCE, AIAA, ACI, ASHRAE, ASM, ASME, CSPE, IEEE, NSBE, SAME, SEAOSD, and SHPE.

The purpose of the events of NEW San Diego is to promote and celebrate the engineering profession through broad participation in NEW activities, which bring the engineering societies together in this effort, and to inform the general public about what engineering is and how it benefits society.

Upcoming events include:

- Engineering Day at the Mall, sponsored by ASCE/YMF, will be held on March 14, 2015 (*Weather Permitting*) at the Chula Vista Center Mall, 10:00 AM – 4:00 PM. <http://www.new-sandiego.org/edayatthemall.html>.
- MATHCOUNTS San Diego Competition: To be held on February 28, 2015, at the UC San Diego Warren Lecture Hall (Mathews Lane), 8:00 AM - 3:30 PM. The event is hosted by ASME, ASCE CSPE, and other San Diego engineering societies. For more information see: <http://www.new-sandiego.org/mathcounts.html>

Proclamation:

City of San Diego Council President Sherri Lightner and San Diego County Board of Supervisors Chair Bill Horn proclaimed the week of February 22-28, 2015 National Engineers Week in San Diego.

San Diego County Engineering Council (SDCEC) NEW 2015 Planning Committee

Name	Society	Office, Sub-Committee
Jeniene Knight	ASCE	Chair, Banquet MC, Proclamations
Chris Root	AIAA	Vice-chair
Ken Discenza	CSPE	Treasurer, Banquet Coordinator
Dr. Gerald Gerace	IEEE	Awards Chair
Kimberly Wender	ASCE	Centennial Exec. Assistant
Mehdi Khalili	CSPE	Publicity Chair / Webmaster
Peter Livingstone	CSPE	MathCounts Coordinator
Sharon Liu	ASCE-YMF	E-day at the Mall Chair
David Akers	ASCE	Scholarship Chair
John Klemunes	APWA	Scholarship / Programs
Kris Olsen	ASCE	Displays Coordinator
Cynthia Hoffman	SHPE	Programs

Society Representatives:

Heather Caya	(ACI) American Concrete Institute
James Powell	(AIAA) American Institute of Astronautics and Aeronautics
Dr. Robert Klug	(ASM) The Materials Information Society
Phillip Young, Keith Frankie	(ASME) American Society of Mechanical Engineers
Sean Rodgers, Ron Amberger	(ASHRAE) American Society of Heating, Refrigerating, and Air Conditioning Engineers
Gregory Humora	(APWA) American Public Works Association
James Gottfried	(INCOSE) International Council on Systems Engineering
Jim Wink, Raymond Powell	(SAME) Society of American Military Engineers
Josh Moore	(SAMPE) The Society for the Advancement of Material and Process Engineering
Victor Guzman, Cynthia Hoffman	(SHPE) Society of Hispanic Engineers
Cathy Riley	(SEAOSD) Structural Engineers Association of San Diego
Denise Tung	(SWE) Society of Women Engineers
Debra Kimberling, Illya Ninichuck	

KEYNOTE ADDRESS

“The Strategic Integration of Desalinated Seawater into Existing Potable Water Conveyance Systems”

KEYNOTE SPEAKER
Brent Alspach, PE, BCEE,
Senior Environmental Engineer,
ARCADIS, U.S. Inc.



With California’s population continuing to increase in the grip of a prolonged drought, proactive agencies across southern California are developing alternative water supplies to augment more traditional sources. Accordingly, with several potential seawater desalination plants proposed within its service area, the Metropolitan Water District of Southern California (MWD) commissioned ARCADIS to study the integration of desalinated seawater into existing water conveyance systems at major facilities around the globe. Such firsthand accounts from operating plants had never before been compiled, yielding valuable information for MWD’s strategic planning. The presentation summarizing key findings of this work won the “Best Paper” award at the 2012 AWWA Membrane Technology Conference.

Brent Alspach holds both Bachelor and Master of Science degrees in Civil and Environmental Engineering from Cornell University in Ithaca, NY. Mr. Alspach joined ARCADIS in 1997 and serves as a Principal Environmental Engineer specializing in potable water treatment and reuse. He is an internationally recognized authority on membrane processes, and in this capacity has given invited presentations at Sandia National Laboratories, the China Water Show, American Society of Civil Engineers, WaterReuse Association, the Urban Water Institute, and the Multi-State Salinity Coalition, among others. In addition, Mr. Alspach has authored or co-authored over 100 publications on membrane treatment and other water-related subjects, including the USEPA Membrane Filtration Guidance Manual and several AWWA manuals of practice. He also serves on the expert review panel for AWWA Manual of Practice M62: Membrane Applications for Water Reuse. Mr. Alspach is a past Chair of the AWWA Membrane Processes Committee and an incoming member of the Board of Directors of the American Membrane Technology Association (AMTA). At the AWWA’s recent Water Quality Technology Conference, Mr. Alspach was honored to be the recipient of the organization’s Golden Spigot award for 2014. Aside from the privilege of being the keynote speaker at this year’s National Engineers Week Awards Banquet, one of Mr. Alspach’s proudest accomplishments was having written the narrative that won the ASCE’s 2013 Outstanding Civil Engineering Achievement Award for San Diego’s own Alvarado Water Treatment Plant Ozone Upgrade and Expansion Project.

AGENDA

- 6:00-7:00 pm** **Reception: Forum at the Hahn University Center**
- 7:00 pm** **Dinner Served**
- 7:05 pm** **Welcome and Acknowledgements**
Jeniene Knight, ASCE
NEW SD 2015 Chair, Banquet MC
- 8:00-8:30pm** **Awards Presentations**
Dr. Gerald Gerace, IEEE, NEW SD 2015 Awards Chair
- 1) Outstanding Engineer
 - 2) Outstanding Engineering Educator
 - 3) Dr. Thomas Avolt Kanneman Outstanding Engineering Service Award
 - 4) Outstanding Engineering Project
 - 5) SDCEC/ASCE Co-sponsored Outstanding Engineering Project Award
- ASCE Centennial Project Award*
Presented by Jeniene Knight, ASCE Centennial Chair
- 8:30-9:15pm** **Speakers:**
Chris Klemaske, Project Developer, T.B. Penick & Sons
“Project from the Heart”
- Ross Cather, Chief for Engineering Services, Caltrans
“Cabrillo Bridge Retrofit Laurel Street Overcrossing Project”
- Keynote Speaker:**
Brent Alspach, P.E., B.C.E.E, Senior Environmental Engineer, ARCADIS, U.S. Inc.
“The Strategic Integration of Desalinated Seawater into Existing Potable Water Conveyance Systems”
- Speaker information, photos and bio can be found on
<http://www.new-sandiego.org/speakers.html>.
- 9:15 pm** **Closing Comments**

Special Thanks to...

**Mira Mesa High School Sapphire Sound’s
Saxophone Quartet for performing LIVE !**

Soprano: *Jake Boring Tenor: *Brendalyn Knight
Alto: Andrew Fineman Bari: Paul Nguyen
*Drum Majors

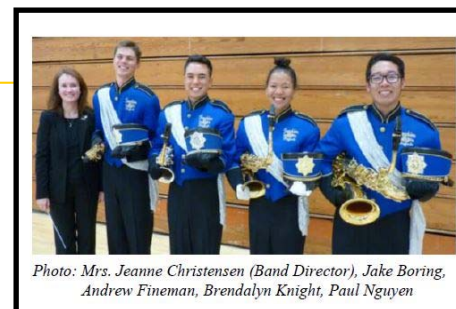


Photo: Mrs. Jeanne Christensen (Band Director), Jake Boring, Andrew Fineman, Brendalyn Knight, Paul Nguyen

National Engineers Week 2015

SAN DIEGO AWARDS

The SDCEC NEW 2015 Awards are:

OUTSTANDING ENGINEER: The award recognizes an engineer from the San Diego area who has made outstanding contributions to the field of engineering which serve the engineering profession and the general public. (SDCEC)

Vic Bianes, P.E., M.B.A., B.S.C.E.
San Diego County Water Authority

OUTSTANDING ENGINEERING EDUCATOR AWARD: The award recognizes an engineering educator from the San Diego area who has made outstanding contributions to the field of engineering education that serves the engineering profession and the general public. (SDCEC)

Truc T. Ngo, Ph.D.
University of San Diego

DR. THOMAS AVOLT KANNEMAN OUTSTANDING ENGINEERING SERVICE

AWARD: The award recognizes individuals who have given outstanding professional and/or public service in or for engineering that directly enhances the engineering profession. (SDCEC)

Elizabeth Schroth-Nichols, M.S., P.E.
Kleinfelder

OUTSTANDING ENGINEERING PROJECT AWARD: The award recognizes an outstanding engineering project in the SD area that benefits the public. (SDCEC)

POMONA AVENUE ROUNDABOUT
City of Coronado, Psomas

CO-SPONSORED OUTSTANDING CIVIL ENGINEERING PROJECT AWARD: Sponsored by the American Society of Civil Engineers, the award recognizes an outstanding civil engineering project that benefits the public. (SDCEC/ASCE)

SAN DIEGO NEW CENTRAL LIBRARY
City of San Diego
BergerABAM

ASCE CENTENNIAL PROJECT AWARD: Sponsored by the ASCE Centennial Celebration, the award recognizes an outstanding civil engineering project and historic landmark.

CABRILLO BRIDGE RETROFIT LAUREL STREET OVERCROSSING PROJECT
City of San Diego
Caltrans
T.Y.Lin International

ASCE CENTENNIAL PROJECT AWARD

CABRILLO BRIDGE RETROFIT LAUREL STREET OVERCROSSING PROJECT

City of San Diego

Caltrans

T.Y.Lin International

The Cabrillo Bridge, built in 1915, was designed by Frank P. Allen, Jr. and engineered by Thomas B. Hunter. The bridge was envisioned as the grand entry to the exposition from the intersection of Sixth Avenue and Laurel Street. During the exposition it was open only to pedestrians, and dignitaries were the few people allowed to motor across with the inaugural car trip including Assistant Secretary of the Navy Franklin D.



Roosevelt, President of the Exposition Committee G. Aubrey Davidson, and Mayor Charles F. O'Neill. The bridge structure consisted of seven self-supporting cantilevered arches constructed of steel T-frames and reinforced concrete using redwood forms. The redwood was left in place in many locations and was to become a concern many years later when it provided fuel for difficult-to-extinguish fires within the structure. An earlier more dramatic design, by Bertram Goodhue, featured three massive arches spanning Pound Canyon (now renamed Cabrillo Canyon), but was shelved due to cost concerns. Cabrillo Freeway did not yet exist, but the bridge did span West Park Boulevard as well as a reflecting pool that was built as part of the Exposition to enhance the view of the bridge. The bridge is 40 feet wide and up to 120 feet high with a total length of 450 feet. Construction of the bridge required 450 tons of reinforcing steel and 7,700 cubic yards of concrete and was completed at a total cost of \$225,154.89, more than \$75,000 over the original estimate.

In preparation for its centennial, the Cabrillo Bridge has recently undergone a \$38M seismic retrofit by Caltrans, under a cooperative agreement with the City of San Diego. The remaining redwood forms have been removed, spalled concrete repaired, and seismic strengthening has been added to improve displacement and shear capacity, all without altering the exterior appearance of the structure.

The Cabrillo Bridge was recognized as a local Historic Civil Engineering Landmark in 1986 by the San Diego Section of ASCE. Balboa Park is a City of San Diego Historic Landmark and is listed on the National Register of Historic Places.

Ross T. Cather - Caltrans District 11



Ross Cather has more than 25 years of experience with Caltrans. After assignments in District 11 Project Studies, Traffic Operations, and Project Management, he is currently the District Division Chief for Engineering Services. He and the team members in his division are responsible for Hydraulics Engineering, Traffic Design, Electrical Design, Materials Laboratory and Engineering Services, and the District Office Engineer. Ross is a native of San Diego, a graduate of SDSU, and a Registered Civil Engineer.

OUTSTANDING CIVIL ENGINEERING PROJECT AWARD
Co-Sponsored by SDCEC & ASCE

SAN DIEGO NEW CENTRAL LIBRARY
City of San Diego
BergerABAM



In all, about \$65 million for construction came from private donations — along with \$10 million for increased operating funds so the library does not become a drag on the city budget. "This is unlike anything I've ever been through," said Jay Hill, chief executive of the San Diego Public Library Foundation, which did the fundraising. "We've had people who just refused to give up." Quigley and the San Diego firm Tucker Sadler & Associates were chosen as architects. The general contractor was New York-based Turner Construction, which built the new Yankee Stadium and the world's tallest building in Dubai. The nine-story library, with a three-story atrium, has a domed terrace, a sculpture garden, open stacks of books, dozens of computer terminals, an art gallery, an auditorium and a special-collections wing. Its collection of baseball books is said to be second only to the baseball Hall of Fame's in Cooperstown, N.Y. A reading room on the eighth floor has a view of San Diego Bay. A charter high school takes up two floors. Boosters envision art shows, weddings, corporate confabs and political gatherings, among other things, in various spots in the library's 497,000 square feet of space.

(extracted from <http://articles.latimes.com/2013/sep/28/local/la-me-san-diego-library-20130929>)

Outstanding Engineer
(SDCEC)

Vic Bianes, P.E., M.B.A., B.S.C.E.
San Diego County Water Authority



Mr. Bianes is the Engineering Manager at the Water Authority (SDCWA) and assists in executing the SDCWA's \$6.7 Billion CIP Program. SDCWA is a public agency serving the SD region as a water wholesale provider. Prior to working at SDCWA, Mr. Bianes worked as a City of San Diego CIP Deputy Director. Among Mr. Bianes' numerous accomplishments is the Carlsbad Desalination Project, the largest seawater desalination plant in the Western Hemisphere, which entails converting seawater into potable drinking water. The project included the construction of a 50 MGD desalination plant, 54-inch diameter conveyance pipeline, 75-inch Pipeline 3 relining, and the San Marcos Vent project. In addition to his technical contributions, Mr. Bianes continues to be actively involved in supporting the engineering community at the local, national, and international levels. Citing here just one of a long list of examples, Mr. Bianes was instrumental in the initial formation of the Water for People Chapter in SD. The chapter raises funds to construct safe drinking water facilities in third world developing countries. The chapter has grown substantially through the years and is recognized nationally.

Outstanding Engineering Project Award (SDCEC)

Outstanding Engineering Educator
Award (SDCEC)

Truc T. Ngo, Ph.D.
University of San Diego



Professor Ngo most notable educational achievement is her successful work pioneering sustainability engineering at the University of San Diego (USD). Her course "Sustainability Engineering" is the single most popular engineering elective USD has ever had and is the result of multiple years of instructional development efforts in multiple engineering disciplines. She has trained students not only on how to assess the existent environmental problems that the world is facing, but also how to apply their various engineering skills and knowledge to solve these problems. To provide opportunities for freshman participation in this important field, Dr. Ngo led the way as the first engineering faculty member to participate in the Sustainability Living Learning Community

providing engineering first year students with the opportunity to learn sustainability issues from an engineering perspective while participating in a living learning community with other sustainability motivated students studying in fields in arts and sciences. Prof. Ngo was recruited to the faculty to lead the redesign of USD's manufacturing engineering curriculum and this has been the focus of a successful five-year engineering education project that has resulted in the complete redesign and modernization of this curriculum including all new laboratories.

**Dr. Thomas Avolt Kanneman
Outstanding Service Award (SDCEC)**

**Elizabeth Schroth-Nichols, M.S., P.E.,
Kleinfelder**

Elizabeth is an active member of the American Society of Civil Engineers (ASCE) Younger Member Forum (YMF) San Diego. She served as the Vice President of Education on the YMF board from 2011 to 2013. As VP-



Education, she revived the Career Shadow Program and served as the organizer of two résumé workshops at local colleges in San Diego. The YMF Career Shadow Program pairs young professionals with compatible college and high school students and other interested young professionals to build a lasting mentor/mentee relationship.

Leading this project, Elizabeth matched participants with similar interests. Quarterly, Elizabeth chose a successful mentoring pair to be featured in the YMF newsletter to showcase their success and encourage other members and students to take part in the program. The résumé workshop gives students an opportunity to have their résumés reviewed and practice interview skills with YMF members. Currently, she serves as the YMF Treasurer (2013-2015) and enjoys participating in many of YMF's events such as Engineering Day at the Mall, hikes, and feeding the homeless. Elizabeth is an excellent role model for future and young engineers, demonstrated through her commitment to further the ASCE goals of promoting professionalism and the profession throughout society and helping to develop and support civil engineering leaders and enhancing their career growth while also growing as a leader in the profession and the community.

Chris Klemaske - T.B. Penick & Sons, Inc.



Chris Klemaske has been involved in the Decorative Concrete Industry for 25 years. She served as the President of the San Diego Chapter of the American Concrete Institute 2013-2014; she served as the Director for the Decorative Concrete Council for the American Society of Concrete Contractors 2012-2014 and is now serving on the Board of Directors for the American Society of Concrete Contractors. She is on the Advisory Board of Concrete Contractors Magazine, a member of NAWIC, National Organization of Women in Construction and partners with the following associations, Bomanite Corporation, NTMA, Lithocrete, AIA, ASLA, AGC, ICSC and USGBC. She has been an award winning Project Developer with the team at T. B. Penick & Sons, Inc. for the last fifteen years.

**POMONA AVENUE ROUNDABOUT
City of Coronado
Psomas**

The Pomona Avenue Roundabout project was constructed to transform a wide, four-legged intersection with an untraditional geometry into a safe, efficient intersection for all users that adds to the aesthetic quality of the residential neighborhood in which it is located. Prior to construction, the intersection was a partially controlled intersection with a unique geometry that often lead to driver confusion. Complicating the intersection's operation were direct residential property access points to eight properties fronting Pomona Avenue within the intersection.

The City incorporated the neighborhood residents into the design phase through a series of public workshops to ensure the final design would be supported by the neighborhood. A temporary roundabout was also installed to evaluate design characteristics and further educate residents.

The ultimate roundabout design incorporated safety measures by providing access points to adjacent residential properties separate from the intersection by a unique access road adjacent to the roundabout. To further improve safety for both bicyclists and pedestrians the project included raised crosswalks with solar-powered rectangular rapid-flashing beacons, sharrows, and opportunities for cyclists to exit the roadway prior to the roundabout if desired via driveways and bike ramps. Curb pop-outs adjacent to pedestrian crossings provided additional landscaping opportunities and storm water runoff treatment features while shortening pedestrian crossing distances. Landscaping was designed to shield adjacent properties from headlight glare and vehicular paths of travel were moved further away from residential properties to reduce noise impacts.

Having completed construction during the summer of 2014, the City continues to monitor vehicle speeds, traffic counts, and accident records in an effort to ensure the desired traffic calming goals were realized and are maintained over time. This project became a model design process other cities can replicate in their neighborhood and traffic calming improvement programs.

