



# AMERICAN SOCIETY OF CIVIL ENGINEERS SACRAMENTO SECTION

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## Sacramento Section Awards for Individual Achievement Summer 2010: Martin A. Farber

At this writing, our national Society offers about 80 different awards for individual achievement. Many of these awards are named after civil engineers from ASCE history, now deceased, that the Society has chosen to honor for their notable contributions to the profession, the Society, their community, the country, and the world.

Sacramento Section has its own honors and awards, which it bestows annually on deserving engineers in the Section's service area. My only contribution to this tradition was to introduce some new awards, named after distinguished engineers who had lived and worked in our service area.

I was not familiar enough with local history to be able to name more than one or two noteworthy engineers whose names would be fitting and appropriate for the new awards. Fortunately, I received help from some of the chairs of our Section's committees and Institute chapters, and its past presidents.

In this regard, invaluable help was provided by Don Alden and Norman Root. In recent years, Don had searched through our Section's archives, and found a great amount of material regarding the 1930 ASCE Conference hosted by our Section under then-President Thomas E. Stanton. Alden used this material to produce a DVD of the event that includes a running narrative with

still photos and film clips from the Conference. However, it was Norman who was able to identify outstanding Section members and leaders, not only from the 1930 Conference, but also from later years, and to identify the civil engineering specialty or other endeavor in which they excelled.

In this effort, I did not do any original research, but simply made use of information readily available on the internet, or from a librarian, historian, or archivist in the agency where the historic engineers spent the better part of their careers. The information was usually in the form of a retrospective published at the time of the engineer's retirement, or from their obituary. I also obtained some material from the national Society. And the material I obtained for Drury Butler was provided by Norman Root, who did the research and original write-up.

It is my hope that this catalog of the Section's honors and awards, and the histories of the distinguished engineers from our Section's past, will make these awards more meaningful.

Martin A Farber, P.E., D.WRE  
Past President, Sacramento Section, 2007-8

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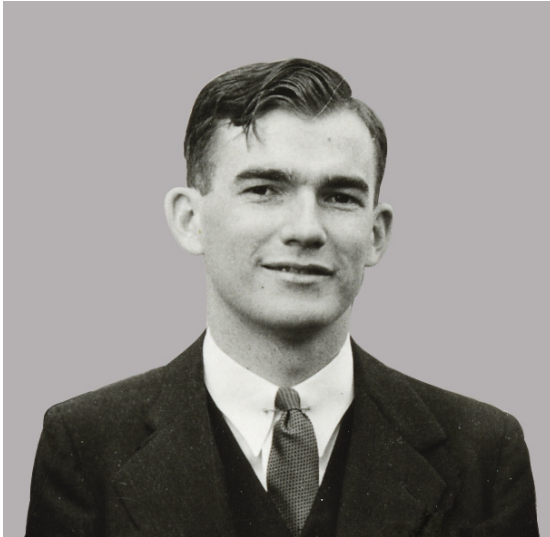
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## **Arthur L. Elliott Award Bridges**



Arthur L. Elliott  
1911 - 2004

Arthur Leonard Elliott was born in Seattle, Washington, and attended the University of Washington, graduating in 1933 with a degree in civil engineering. His professional career began with the U. S. Bureau of Public Roads on various Pacific Coast projects. From 1934 to 1936, he served as construction engineer on the San Francisco-Oakland Bay Bridge. After the span was opened to traffic on November 12, 1936, Mr. Elliott transferred to the Bridge Department of the Division of Highways. At the end of World War II, Mr. Elliott moved to Sacramento, where in 1953 he was named the state's chief of bridge planning. In that capacity, he supervised the design of more than 8,000 structures on the state highway system, of which more than 6,000 were bridges.

Elliott achieved worldwide recognition as an authority on bridge design. In 1963, as a consultant to the Agency for International Development of the State

Department, Elliott went to the Republic of the Congo, Africa, on a United Nations-sponsored highway and bridge rehabilitation project. He has also been engaged as a consultant in lawsuits in Oregon and Alaska.

Through affiliations with national professional organizations, Elliott has made major contributions which have furthered techniques in bridge-building. He has been on the Bridge Committee of the American Association of State Highway Officials, and chairman of the Structures Section of the Highway Research Board of the National Academy of Sciences.

Elliott was a member of the Governor's Interagency Earthquake Committee, an alternative member of the Governor's Earthquake Council, and served on the Advisory Board for the Strong Motion Instrumentation Program. He also served as an advisor for a Federal Highway Administration-sponsored research program carried on at the University of California at Berkeley.

Elliott was a Fellow of the American Society of Civil Engineers and a member of the International Association of Bridge and Structural Engineering. In February of 1973, he was presented with an award for "Outstanding Service to the Profession" by the Engineering Council of the Sacramento Valley.

Elliott retired in September 1973 after nearly 40 years of service to the State of California. In 1993 Elliott received ASCE's John A. Roebling Medal for lifetime achievement in bridge engineering.

### **Arthur L. Elliott Award Winners**

- 2008 Alfred R. Mangus
- 2009 Not awarded
- 2010 Kevin Thompson
- 2011 Mark Reno

## **Thomas E. Stanton Award Best Event**



Thomas E. Stanton  
1881 - 1962

Thomas Elwood Stanton was born and raised in Los Angeles. He graduated from Saint Vincent's College in 1899 with an A.B. degree. He then attended the University of California at Berkeley where he received a B.S. degree in mining.

He began his professional career in the City Engineer's Office in Los Angeles in 1905, where he served successively as instrument man, chief of party and as assistant engineer in charge of sewer and paving design and construction. In 1912, he accepted the position of Principal Assistant Division Engineer in Fresno by J. B. Woodson, the new Division Engineer of the California Division of Highways.

In 1914 he advanced to the position of Principal Assistant Division Engineer in Sacramento. In 1920 he was made Assistant Highway Engineer in charge of general inspection throughout the southerly portion of the State. In 1921, when the Department of Public Works was formed, Mr. Stanton was appointed Assistant State Highway Engineer until his appointment as Materials

and Research Engineer in 1928, which position he occupied for the succeeding 23 years until his retirement in 1951.

Stanton was probably best known for work on the durability of Portland cement concrete. Mr. Stanton was the first to discover that one of the most marked forms of deterioration in Portland cement concrete was attributable to an internal reaction between constituents in the cement and in the aggregate. In other words, certain brands of Portland cement may contain small percentages of alkalis which cause no trouble unless the sand used contains certain minerals such as opal or similar forms of silica which will react with the alkalis in the cement.

During his professional career, Stanton was an active member of virtually all American technical societies. He was a director of the American Society of Civil Engineers, 1937-39, and vice president in 1942-43. He served on the Board of Directors of the American Concrete Institute in 1943-44 and was elected an honorary member in 1955. Together with other honors for notable contribution, he was awarded the Wason Medal by the American Concrete Institute in 1934, and the Norman Medal by the American Society of Civil Engineers in 1943, both for outstanding work in Portland cement concrete, especially for the discovery of the alkali-aggregate reaction.

### **Thomas E. Stanton Award Winners**

- 2008 Natalie E. Calderone
- 2009 Louay Owaidat and Larry J. Smith
- 2010 Pal Hegedus, Robert Shibatani,  
and Pamela Creedon
- 2011 Jeremy Herbert and Jaimie Davis

## **Charles S. Pope Award Construction**



Charles S. Pope  
1874 – 1938

Charles Stockton Pope was born on August 10, 1874, at Fort Stockton, Texas. He received his early education at Army schools, private and public schools, graduation from Stanford University with an A.B. in C.E. in 1897.

Mr. Pope began his professional career in 1898, on land and irrigation surveys in Kern County. In 1900 and 1901 he was assistant engineer on power projects for the Standard Electric Co., continuing similar work in 1902 and 1903 for the North Shore Railroad and Stanislaus Water and Power Co. During 1904 to 1906 he was engaged as surveyor for the King of Arizona Mine, and in private practice at Los Angeles. In 1907 he entered the engineering department of the City of Los Angeles where he was principally engaged as highway engineer in charge of paving work until the year 1915. From 1916 to 1921 he was associated with Warren Brothers as district engineer on promotion and consulting work for asphalt pavement projects in California and Nevada.

In January, 1922, he began his service with the California Highway Commission as Assistant Engineer, specializing on asphalt pavement work. In September, 1923, when the Construction

Department was organized, Mr. Pope was appointed head of this department as Construction Engineer in charge of the Materials and Research Laboratory and of all highway construction, except major bridges. The laboratory assignment was terminated in 1928 when the Materials and Research Department was organized. As Construction Engineer, Mr. Pope also had charge of the State Prison Camps, involving supervision of the construction of many miles of heavy mountain roads and of problems concerning the rehabilitation of prisoners.

To his keen, analytical mind and his constant interest in research can be attributed many of the improved methods of construction of our highways. His continued effort and study are primarily responsible for the development of the modern high type asphalt concrete pavement as now constructed by the State. His numerous technical and scientific papers, articles, and discussions contributed materially to the knowledge of highway engineering and are widely recognized as authoritative.

He was an active member of the American Society of Civil Engineers, serving as president of the Sacramento Section in 1924 and on numerous committees. He was also a member of Sacramento Lodge No. 40, Free and Accepted Masons, the Sutter Club, San Francisco Engineer's Club, California Museum Association, and a former member of the Sutter Tennis Club and the Del Paso Country Club.

### **Charles S. Pope Award Winners**

- 2008 Larry J. Smith
- 2009 Melissa Woodruff
- 2010 Louay Owaidat
- 2011 Heather Crockett

## **Francis N. Hveem Award Geotechnical**



Francis N. Hveem  
1898 - 1990

Francis N. Hveem was born in La Moine, Shasta County, and received his early schooling at the nearby community of Delta. He started his career in 1917 as a draftsman for the Division of Highways in Dunsmuir. After serving as Assistant Resident Engineer, then Resident Engineer, and Maintenance Superintendent, Hveem joined the staff of the Materials and Research Department in 1929. There he progressed through positions of increasing responsibility to Supervising Materials and Research Engineer. Appointed Construction Engineer in 1950, Hveem soon afterward was promoted to Materials and Research Engineer in 1951, and served in that position until his retirement in 1963.

Testing equipment, procedures, and design theories developed by him and under his supervision have been accepted and used throughout the United States and many foreign countries and, in turn, engineers from abroad have come to the United States to study his methods. Some of the better

known devices and test methods he developed are the stabilometer, the cohesiometer, sand equivalent apparatus, and profilograph. The series of barrier crash tests using remote controlled vehicles and anthropometric dummies which he promoted and directed has furnished valuable highway design and safety information now being used by other highway departments throughout the United States. His formulas for the design of asphalt pavement are also recognized as one of his outstanding contributions to the highway science field.

Much in demand as a consultant, Hveem traveled through much of the United States and abroad, accepting invitations from national highway departments in Argentina, Brazil, Mexico and Egypt. He authored more than 40 technical papers.

Among Hveem's honors are the Highway Research Board's award for the paper of outstanding merit in 1949 and the Roy W. Crum Award for distinguished service in 1956. The University of California has awarded him an honorary membership in the university's chapter of Chi Epsilon, civil engineering honor society. In 1964 Hveem won the W. J. Emmons Award of the Association of Asphalt Paving Technologists. The award was for the best paper presented at the 1963 meeting which was held in San Francisco. He was the recipient of two awards from the Transportation Research Board of the National Academy of Science, and held honorary membership in the Association of Asphalt Paving Technologists – being only one of five so elected since the founding of the group in 1932. He was a member of 12 national technical committees when he retired in 1963. Hveem was President of Sacramento Section in 1956.

### **Francis N. Hveem Award Winners**

2008 Jeremy Zorne  
2009 Tom Blackburn

2010 Ray Costa

2011 Dr. Leslie Harder



## Frederick W. Panhorst Award Structures



Frederick W. Panhorst  
1893 – 1974

Born in Mexico, Missouri, Panhorst attended grade and high schools in Staunton, Illinois. He received his bachelor of engineering degree in 1915 and his professional degree in 1916 from the University of Illinois. His early experiences included land surveying, mine surveying, construction of railroad bridges and mill building design. Two years after graduation from college, he came west as a naval architect for the Puget Sound Navy Yard in Bremerton. Later he returned to the M. K. & T. R. R. as an assistant bridge engineer. In 1920 he went to Anaconda, Montana, where he designed several complete copper smelting plants for the Anaconda Copper Company for construction in South America. From 1921 to 1927 he was in charge of construction of several large bridges for the State of Washington.

Mr. Panhorst came to California in 1927 as Construction Engineer for the Bridge Department of the Division of Highways. In 1931 he was appointed Acting Bridge Engineer, advanced to Principal Bridge Engineer in 1936, and in 1947 he attained the position of Assistant State Highway Engineer – Bridges, where he served until his retirement in 1960.

During his 29 years as department head, Panhorst was responsible for the planning, design, construction and maintenance of what he modestly refers to as “maybe \$1 billion” in bridge and tunnel projects, including hundreds of separation and interchange structures for the State’s expanding network of freeways. Over these years, Panhorst saw his division grow from a staff of 115 to nearly 1,000. During the same period, the allocations for bridge construction also grew, starting at \$3,250,000 and culminating in today’s \$140,000,000. Panhorst saw his own responsibilities grow rapidly with the increase in the need for more and better bridges for the State of California.

Panhorst was a past National Director of the American Society of Civil Engineers, and a former President of the Sacramento Section (1939). He was a member of the Structural Engineers Association, the American Concrete Institute, the American Association of State Highway Officials, the American Roadbuilders Association, and the American Toll Bridge and Turnpike Association.

### Frederick W. Panhorst Award Winners

- 2008 Joyce Copelan
- 2009 Joyce Copelan
- 2010 Ray Zelinski
- 2011 Kit Miyamoto

## **David N. Kennedy Award Water Resources**



David N. Kennedy  
1935 - 2007

Kennedy was born in 1935 in Ontario, Oregon. He earned a bachelor's degree in civil engineering in 1959, and a master's degree, also in civil engineering, from the University of California at Berkeley in 1962.

Between 1983 and 1998 Kennedy served as the director of California's Department of Water Resources. During that time, he faced three major floods as well

as a prolonged drought. In his work on the California State Water Project, he improved the pumping capacity in the Delta shared by the Sacramento and San Joaquin Rivers, and promoted efforts to safeguard the area's environment.

Honored by the university as a distinguished alumnus in 1997, he was elected to the National Academy of Engineering in 1998. After retiring, he accepted an invitation to speak in Japan on the California State Water Project, which in 2001 was named one of the most outstanding engineering achievements of the 20th century by ASCE. Kennedy was also a member of ASCE's External Review Panel, which peer-reviewed the work of the U.S. Army Corps of Engineers' Interagency Performance Evaluation Task Force – the body commissioned by the Corps to assess the performance of the hurricane protection system in New Orleans and southeastern Louisiana during and after Hurricane Katrina.

### **David N. Kennedy Award Winners**

- 2008 Pal Hegedus
- 2009 Pamela Creedon
- 2010 Timothy Quinn
- 2011 Rita S. Sudman

**Joseph W. Gross Award  
Humanitarian Service**



Joseph W. Gross  
1884 – 1952

Joseph Watson Gross was born on September 13, 1884, at Mitchell, SD. In 1894 the family moved to Oakland, CA, where Mr. Gross was educated, graduating from high school in 1903. He entered the University of California at Berkeley, and graduated in 1907 with a Bachelor of Science in Civil Engineering.

Always advancing, he was in charge, as chief deputy county engineer of Sacramento County, of the construction of the first bascule bridge across the Sacramento River. As chief deputy city engineer of Sacramento, he was responsible for the planning and construction of a program of sewer, dock, wharf, and flood control work, estimated at \$3,000,000.

During two years' work with the newly organized California State Highway Commission, Mr. Gross gained experience in highway and bridge engineering, and, as assistant examiner with the State Civil Service Commission, he widened his circle of friends.

During WWI, he was assistant to the chief engineer representing Monks and

Johnson of Boston, MA, and was in charge of much of the designing and construction of Liberty Yard, at Alameda, CA, a ship-building plant of an estimated cost of \$25,000,000.

In 1920, he opened his own office in Sacramento, specializing in municipal and agricultural engineering. Thereafter, he was closely identified with water problems in northern California and was in demand as an expert witness. His clients had implicit confidence in his judgment and integrity.

Mr. Gross was instrumental in organizing the first University Club in Sacramento, which was disbanded during WWI when most of its members entered the armed services, and also in organizing the Sacramento Engineers Club, disbanded when the Sacramento Section of the Society was formed in 1922. Mr. Gross was a charter member of the Sacramento Section, its first Secretary, and in 1929, its President.

Always active in local Section affairs, he was particularly interested in the University of Nevada student chapter at Reno, and in junior member activities. During the depression years, much of his time was devoted to finding or helping "make" temporary jobs for unemployed engineers. Through his efforts, the Sacramento Section built up an "unemployment fund," later known as the "Joseph W. Gross Relief Fund." From which small loans were made which accomplished much good. Most of these loans were eventually repaid.

**Joseph W. Gross Award Winners:**

- 2008 Jennifer Wheelis
- 2009 Ilana Cohen
- 2010 George Qualley
- 2011 Joyce Copelan

## **Jonathan Burdette Brown Award Education**



Jonathan Burdette "J. B." Brown  
1887-1948

In addition to his 23 years of service as UC Davis Extension Specialist in Irrigation, Mr. Brown was associated with the irrigation activities of the College of Agriculture in cooperative irrigation investigations in Nevada County from April to December, 1917; in a study of irrigation diversions from the Sacramento River from March to June, 1919; and as Lecturer and Associate in Irrigation at Davis from October 1, 1945, until his death. Throughout these periods with the University he proved himself to be a capable worker, sound and practical in his approach, clear in both his oral and written presentations, and in a high degree, friendly and cooperative in his relations with farmers and students. His thorough knowledge of California agricultural and irrigation conditions and of the practical farm irrigation problems with which he was called on to deal enabled him to perform a service of high order to the University and to the farmers of the State. His special interest was hydrology, with

emphasis on weather and run-off, his expert knowledge in this field furnishing a broad background for his University and other professional activities. To his coworkers and professional associates, both within and outside of the University, he was intimately known as "J. B.," and as "J. B." he will be remembered and respected by all of them.

Mr. Brown was born in Greenville, Illinois, March 12, 1887. He entered the University in 1907 from the Pasadena High School, graduating as a Bachelor of Science in Civil Engineering in 1912. He was out of college one year as a member of a survey party in location of the Northwestern Pacific Railroad in Mendocino and Humboldt counties. His first work after graduation from the University was as hydrographer for the California Development Company in Imperial Valley. From June, 1913, to April, 1917, he was hydrographer for the California State Reclamation Board. From December, 1917, to February, 1919, he was successively a lieutenant and captain of engineers in the army, with service overseas; and from July, 1919, to his appointment as Extension Specialist in Irrigation, he was with the California State Department of Engineering, specializing in irrigation and other hydraulic work. He was a member of the American Society of Civil Engineers and active in its Sacramento Section, of which he was President in 1928. J. B. Brown died in Woodland, California, January 7, 1948.

### **J. B. Brown Award Winners:**

2008 Matthew Socha  
2009 Not awarded  
2010 Dr. John R. Johnston  
2011 Dr. Ben Fell

**Drury Butler Award  
Section Officer of the Year**



Drury D. Butler  
1877 - 1964

Drury DeWolf Butler was born in White Rock, a small town about 6 miles south of Folsom, on November 22, 1877. He graduated first in his high school class in 1897. He earned a Civil Engineering degree from the University of California in 1903. Upon graduation, Butler was engaged in engineering in Colorado, South America, and California. He worked with Pacific Gas & Electric, doing hydraulic engineering, and was assistant engineer for the Sacramento Southern Railroad.

Butler worked as Assistant County Surveyor from 1908 to 1911. He then went into private practice, working on several reclamation projects. He was appointed Sacramento County Surveyor in 1914 and was reelected to that office several times.

There are 38 bridges built by the County during Butler's time in office that are still in use today. He had oversight of the four Joseph Strauss bascule bridges built over the Sacramento River; he built the 12<sup>th</sup> Street Bridge and the Folsom Rainbow Bridge over the American River. The H Street steel through Truss Bridge over the American River was designed and built under his leadership.

Drury Butler joined ASCE in 1919 and was a founding member of the Sacramento Section in 1922. He served as chair of several committees and was chosen President of the Section in 1927.

Butler was on advisory committees working with the California Highway Commission, the California Department of Motor Vehicles, the Association of California County Supervisors, and the Trucking and Automobile Associations to advocate legislation regulating engineering standards and the California Vehicle Code. Butler strongly advocated professional licensing for Civil Engineers.

In 1935, after 20 years of service as County Surveyor, Butler returned to private practice and designed two subdivisions in the City of Sacramento. He also served as a consultant designer and engineer to the Cities of North Sacramento, Galt, and Escalon. In that capacity he designed water systems, sewage treatment plants or subdivisions as needed. He also surveyed mining claims, which was an art in itself.

Butler was president of the Carson Creek Literary Circle at age nineteen. He was a member of the University Club, the Cotillion Club, and was a charter member of the Sacramento Rotary Club. In 1916 he was a member of the Chamber of Commerce committee that initiated the campaign to make Sacramento an inland port. He was inducted as a thirty-third degree mason in 1935, the highest honor in Scottish Rite. He was only the eleventh living Sacramentan to hold that honor.

**Drury Butler Award Winners:**

- 2008 Martin A. Farber
- 2009 Natalie E. Calderone
- 2010 Jeremy J. Zorne
- 2011 Joshua Wagner

## Stewart Mitchell Award History and Heritage



Stewart Mitchell  
1885 - 1968

Stewart Mitchell was born in Belfast, Ireland, on March 24, 1885, and came to the United States when he was four years old. He lived first in Wisconsin, where his father taught at St. John's Military Academy, and later in Indianapolis, Indiana, where he attended school. He graduated from Purdue University in 1908 with a B.S. degree in Civil Engineering.

During the next nine years he worked successively for the Union Pacific Railroad in Denver, the Southern Alberta Land Company in Canada, and the United States Interstate Commerce Commission in Chattanooga, Tennessee.

During World War I he served as a captain with the 306<sup>th</sup> Engineers and spent a year overseas, taking part in the Meuse-Argonne offensive. He was one of the delegates chosen to represent the 81<sup>st</sup> Division in Paris in 1919, at the initial meeting at which the American Legion was created and organized.

After leaving military service he went to work as a resident engineer for the

Oregon State Highway Department. Subsequently he came to California to accept a position with the Division of Highways in 1924, first serving as resident engineer on the Klamath River Bridge in Del Norte County.

In 1927 he came to Headquarters Office in Sacramento where he served continuously until his retirement, first as bridge maintenance engineer, then successively as bridge construction engineer, engineer in charge of bridge planning and design and engineer in charge of special investigations.

Mitchell was president of the Sacramento Section of the American Society of Civil Engineers [1947] and national chairman of the Structural Division of the Society's Executive Committee. He was also a member of the American Concrete Institute, International Association for Bridge and Structural Engineers, and the honorary engineering fraternity, Tau Beta Pi.

His hobbies were golf, photography, and early California history. Perhaps his chief hobby was California history. He was one of the recognized authorities on California immigrant trails, and he published several authoritative articles on this subject. A member of the California Historical Society, he did research work and wrote the topographic section of the recently published book, "Alonzo Delano's California Correspondence."

### Winners:

- 2008 David M. Schwegel
- 2009 Not awarded
- 2010 Norman Root and Don Alden
- 2011 Allen Wrenn

## William H. Hall Award Flood Control



William H. Hall  
1846 – 1934

William Hammond Hall was a civil engineer who was the first State Engineer of California, and designed Golden Gate Park in San Francisco, CA.

After serving with the U.S. army engineers in the Civil War, Hall was assigned in the latter part of the 1860s to surveying the Western regions of the United States and preparing topographical maps.

During this same time, the citizens of San Francisco were considering building a grand park for their new and growing city. The city designated a tract of 1,013 acres (4.10 km<sup>2</sup>) stretching out to the ocean that was known as the "outside land." In 1870 the Park Commission solicited bids for a topographical survey which was awarded to Hall. After the successful completion of that task, he was appointed Golden Gate Park's first superintendent in 1871.

Hall devised a plan to improve the Park. The design included a Panhandle along with two main drives. Additionally, the

outside land was covered with sand dunes which needed to be removed and replaced by forest trees. 60,000 trees had been planted by 1875 (Blue Gum Eucalyptus, Monterey pine and Monterey cypress). Plantings continued and there were 155,000 trees planted by 1879.

In 1876, Hall was elected a member of the California Academy of Sciences, and was appointed California's first State Engineer. Despite his new responsibilities, he retained the position of consulting engineer to Golden Gate Park until he resigned in 1890, and was replaced by his assistant John McLaren.

As California's State Engineer, Hall worked on a comprehensive water supply and flood control system for the Sacramento Valley. Hall's study of California's hydrology lasted from 1878 through 1883. In that time, his staff installed an extensive flow gauging system along some of California rivers. He was also instrumental in designing projects to help San Francisco acquire adequate supplies of water from the western watershed of the Tuolumne River. Following the earthquake of 1906, San Francisco was able to secure the rights to the water, and it flooded Hetch Hetchy Valley.

### Winners:

- 2008 Not awarded
- 2009 Stein Buer
- 2010 Ricardo S. Pineda
- 2011 Doris Matsui

## Theodore D. Judah Award Transportation



Theodore D. Judah  
1826 –1863

Theodore Dehone Judah was born in Bridgeport, Connecticut, on March 4, 1826. He studied engineering at Rensselaer Polytechnic Institute in Troy, NY.

After graduation, his first work was on the Troy and Schenectady Railroad. His railroad work included service on the New Haven, Hartford and Springfield Railroad, the Connecticut River Railway, and the Buffalo and New York Railway. He also located and built the Niagara Gorge Railroad, supervised the construction of a bridge at Vergennes, VT, and worked as construction engineer on a section of the Erie Canal between Jordan and Seneca, NY.

In 1854, Judah was hired as the Chief Engineer for the Sacramento Valley Railroad in California, the first railroad west of the Mississippi River. It was to be built due eastward from Sacramento to Folsom, a distance of about 25 miles. A contract was awarded in November 1854; grading commenced in April 1855, and the line was in operation by February of the next.

For the next three years, 1856-1859, Judah was connected with several railroad

projects in the central valley of California. However, he never lost sight of the main problem, one of much greater magnitude, the railroad across the country to the Missouri River.

In 1860 Judah was in the mountains, making a reconnaissance of several routes, using a barometer to determine elevations. Dr. Daniel W. Strong, a druggist of Dutch Flat, CA, had heard of the explorations of Judah and invited him to come to Dutch Flat and examine the Donner Pass route. The two men went over the route across the mountains in the fall of 1860, and on their return Judah prepared the engineering data at Dr. Strong's store in Dutch Flat. It was agreed that a corporation should be formed and articles were written with that end in view. Failing to raise funds in San Francisco, he was successful in signing up four Sacramento merchants--the "Big Four" who actually built the Central Pacific. They were Leland Stanford, Collis P. Huntington, Mark Hopkins, and Charles Crocker. As a result of Judah's efforts, an organization meeting of stockholders was held on April 30, 1861, and on June 28, the Central Pacific Railroad of California was incorporated.

As the chief engineer of the Central Pacific Railroad, he surveyed the route over the Sierra Nevada along which the railroad was eventually built. His tireless lobbying efforts in Washington, D.C., were largely responsible for the passage of the 1862 Pacific Railroad Act, which authorized construction of the First Transcontinental Railroad. Construction started on January 8, 1863 in Sacramento. Judah died in November 2, 1863 of yellow fever at the age of 37. Construction was completed in 1869, and virtually the entire course of the railroad ended up following Judah's plans.

Winners:

2008 Not awarded

2009 Craig Copelan



2010 Not awarded  
2011 Dr. Brian H. Maroney

## Alfred R. Golzé Scholarship



Alfred R. Golzé  
1905 - 1987

Alfred Rudolf Golzé was born in Washington D.C., and he earned his bachelor's degree in civil engineering at the University of Pennsylvania at Philadelphia. His first job was as an assistant draftsman working on Philadelphia's Broad Street Subway project. In 1930 he returned to Washington to join the Interstate Commerce Commission as a Junior Civil Engineer.

He went to work for the Bureau of Reclamation in Denver in 1933. He was responsible for all Civilian Conservation Corps activities in the Bureau in the late 1930's. With the Bureau of the Budget (1943-45), he was analyst and reviewer of the public works projects of the Army Corps of Engineers and the Bureau of Reclamation.

In 1945, he returned to the Bureau of Reclamation as Assistant Director of the Branch of Operation and Maintenance. He was made Director of the Program and Finance Division in 1947. He worked on Hoover Dam, Grand Coulee Dam, and other major USBR projects of the era, and was

named Assistant Commissioner of Reclamation in 1958. He was awarded the Distinguished Service Award, the highest honor of the Department of the Interior, in 1962.

Golzé retired from the Bureau in 1961 to accept the position of chief engineer of the California State Department of Water Resources. There, he supervised the design and construction of the State Water Project from 1961 to 1967, including design of Oroville Dam, the California Aqueduct, the Edmonston Pumping Plant, and the Tchacalupi Crossing. He was presented the Director's Award in 1966 for engineering leadership. In 1967, he was named a deputy director and served in that position until 1971, when he left state service to work for Burns & Roe, Inc, in Oradell, N.J. as chief water resources engineer.

Mr. Golzé was the author of three books, "Reclamation in the United States," "Handbook of Dam Engineering," and "Your Future in Civil Engineering," and many professional papers and reports. He was a past president of the Sacramento and National Capital City sections of the American Society of Civil Engineers, and served on the U.S. Committee on Large Dams, the International Commission on Irrigation and Drainage, and the Society of American Military Engineers.

In ASCE activities, Golzé was very active. He served both the National Capital and Sacramento Sections as president; was the chairman of the Committee on Engineering Education and the Committee on National Water Policy. He became an Honorary Member of ASCE in 1976.

He has also served on the U.S. Committee on Large Dams, where, under his aegis, model-law legislation for state supervision of dams was prepared and has been made available to 50 states and many foreign countries.

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Phone: (303) 445-2918  
Fax: (303) 445-6690  
E-Mail: [bstorey@usbr.gov](mailto:bstorey@usbr.gov)

**Winners:**

- 2010 Bryan Perrin – CSU, Chico  
Adam Scardaci – CSU, Chico  
Karandev Singh - UC Davis  
Alex Wong – UC Davis  
Kristen Martin – CSU, Sacramento  
Ashley Moran - CSU, Sacramento  
Thanh Do Ngoc – UOP  
Caroline Grant – UOP
- 2009 Andrew Langelier – CSU, Chico  
Caldean Biscocho – UC Davis  
William Grant – UOP  
Samuel Baumgardner – CSU, Chico  
Samantha Moose – CSU, Chico  
Jeffrey Meyer II – CSU, Sacramento  
William Wen Yu – UC Davis  
Caroline Grant – UOP  
Thanh Do Ngoc – UOP

2008 Steve Soldati, CSU Chico  
Francesca Grosjean, CSUS  
Daniel Cloutier, CSUS  
Joshua Wagner, CSUS  
Natasha Jacob, CSU Chico  
Francesca Grosjean, CSUS  
David Jared DeBock, CSU Chico  
Jacqueline Steiner, CSU Chico

2007 Lindsay Carolla, CSUS  
Robert Osborn, CSU Chico  
Tara Dougherty, UOP  
Jennifer Shore, UOP  
Thê Nguyen, UC Davis

**Construction Institute Scholarship  
(Sacramento and San Francisco Section Chapters)**

Winners:

2008 Kurt T. Schmiegel, CSUS  
Tayvin Saks, Stanford  
Shauna England, CSU Chico  
Cassie D. Leonardo CSU Fresno  
Nicholas Biddle Hume, Humboldt State  
James Apple, Humboldt State

2009 Elizabeth Kincaid, UC Berkeley  
Alex Yaroshevich, CSUS  
Shauna England, CSU Chico  
Garrett Smith, SCU  
Cody Cann, UNR  
Ryan Henry, CSUS  
Paul Warnock, UCD  
Peter Rees, CSUF

**Outstanding CE Student**

Winners:

2008 Not awarded  
2009 Joshua Wagner and Daniel Cloutier  
2010 Andrew Langilier (Chico), Caldean Biscocho (UCD),  
Jesse Ogren (CSUS), and Caroline Grant (UOP)  
2011 Tyler Shell (Chico), Josh Bardet (UCD),  
David Harden (CSUS), Brylle Cabacungan (UOP)

### **Outstanding CE Private Sector**

Winners:

- 2008 Not awarded
- 2009 Eddie Kho
- 2010 Ric Reinhardt and Roy A. Imbsen
- 2011 Alan Rozier

### **Outstanding CE Public Sector**

Winners

- 2008 Not awarded
- 2009 John Bassett
- 2010 Pete Ghelfi
- 2011 Pamela Creedon

### **Excellence in Journalism Award**

Winners:

- 2008 Tony Bizjak & Nathaniel Levine (Sacramento Bee)
- 2009 Not awarded

### **Lifetime Achievement Award**

Winners:

- 2008 Not awarded
- 2009 Maurice D. Roos
- 2010 Joe Countryman
- 2011 Steve Dalrymple

### **Outstanding Life Member**

Winners:

- 2008 Not awarded
- 2009 Not awarded
- 2010 Dr. G. Fred Lee
- 2011 Howard Payne

### **Outstanding CE Faculty Advisor**

Winners:

- 2008 Not awarded
- 2009 Dr. Ali Porbaha

### **Outstanding Practitioner Advisor**

Winners:

2008 Not awarded  
2009 Not awarded  
2010 Josh Wagner  
2011 Greg Young

### **Outstanding Younger Civil Engineer**

Winners:

2008 Not awarded  
2009 Kristy Chapman  
2010 Shauna England  
2011 Steve Soldati

### **Outstanding Branch Officer**

Winners:

2008 Not awarded  
2009 Not awarded  
2010 Shane Cummings  
2011 Thor Larsen

### **Outstanding Younger Member Officer**

Winners:

2008 Not awarded  
2009 Not awarded  
2011 Mike Konieczki

### **Outstanding Engineer in Legislative Activities**

Winners:

2008 Not awarded  
2009 Not awarded  
2011 Chuck Spinks

### **Legislator of the Year**

Winners

2010 State Sen. Darrell Steinberg, D-Sacramento  
2011 State Sen. Noreen Evans,

## **BACKGROUND DATA FOR HISTORIC ENGINEER BIOGRAPHIES**

In alphabetical order

### **Brown, Jonathan Burdette**

In addition to his 23 years of service as Extension Specialist in Irrigation, Mr. Brown was associated with the irrigation activities of the College of Agriculture in cooperative irrigation investigations in Nevada County from April to December, 1917; in a study of irrigation diversions from the Sacramento River from March to June, 1919; and as Lecturer and Associate in Irrigation at Davis from October 1, 1945, until his death. Throughout these periods with the University he proved himself to be a capable worker, sound and practical in his approach, clear in both his oral and written presentations, and in a high degree, friendly and cooperative in his relations with farmers and students. His thorough knowledge of California agricultural and irrigation conditions and of the practical farm irrigation problems with which he was called on to deal enabled him to perform a service of high order to the University and to the farmers of the State. His special interest was hydrology, with emphasis on weather and run-off, his expert knowledge in this field furnishing a broad background for his University and other professional activities. To his coworkers and professional associates, both within and outside of the University, he was intimately known as "J. B.," and as "J. B." he will be remembered and respected by all of them.

Mr. Brown was born in Greenville, Illinois, March 12, 1887. He entered the University in 1907 from the Pasadena High School, graduating as a Bachelor of Science in Civil Engineering in 1912. He was out of college one year as a member of a survey party in location of the Northwestern Pacific Railroad in Mendocino and Humboldt counties. His first work after graduation from the University was as hydrographer for the California Development Company in Imperial Valley. From June, 1913, to April, 1917, he was hydrographer for the California State Reclamation Board. From December, 1917, to February, 1919, he was successively a lieutenant and captain of engineers in the army, with service overseas; and from July, 1919, to his appointment as Extension Specialist in Irrigation, he was with the California State Department of Engineering, specializing in irrigation and other hydraulic work. He was a member of the American Society of Civil Engineers and active in its Sacramento Section, of which he was President in 1928. J. B. Brown died in Woodland, California, January 7, 1948. *Source:* [www.ucdavis.edu](http://www.ucdavis.edu)

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### **Butler, Drury D.**

Drury DeWolf Butler was born in White Rock, a small town about 6 miles south of Folsom, on November 22, 1877. His home was a way station, hotel and restaurant, called Half Way House, on the road to Placerville. He graduated first in his high school class in 1897. He earned a Civil Engineering degree from the University of California in 1903. Upon graduation, Butler was engaged in engineering in Colorado, South America, and California. He worked with Pacific Gas & Electric, doing hydraulic engineering, and was assistant engineer for the Sacramento Southern Railroad.

Butler worked as Assistant County Surveyor from 1908 to 1911. He then went into private practice, working on several reclamation projects. He was appointed Sacramento County Surveyor in 1914 and was reelected to that office several times. Butler believed that road and bridge work should be under the direction of competent engineers and should be built to the highest standards and of the best materials. He also believed that roads and bridges should be maintained to a high standard ensuring long life.

During the period when Butler first became the County Surveyor, the counties were responsible for providing the bridges for State Highways. The 12<sup>th</sup> Street Bridge over the American River served the State Highway coming down Del Paso Boulevard. Butler initiated changes during construction of the bridge to improve the scour resistance of the footings, and on another occasion successfully faced down the contractor who was delivering substandard materials into the concrete forms.

Butler planned and designed a commercial gateway road project in Folsom to connect the fruit producing areas across the river in Orangevale, Fair Oaks and Carmichael, with the railhead in Folsom. This project required three new bridges and utilized Theodore Judah's abandoned Central California Railroad bed. One bridge was built during each of the three years that it took to build this economically important project. The Orangevale Avenue Bridge over Gold Creek was the first, completed in 1915. This bridge was the first open spandrel reinforced concrete arch, a relatively new structure type, built in Sacramento County. The bridge over the American River was completed in the final year, 1917. Butler advocated County furnished cement for this project in order to assure quality. This road project was considered one of the finest in California.

Butler was ahead of his time as a proponent for a property tax to pay for public works rather than using bond issues. He pointed out that after paying the service interest on bonds that public works projects end up costing twice as much.

There are 38 bridges built by the County during Butler's time in office that are still in use today. He had oversight of the four Joseph Strauss bascule bridges built over the Sacramento River; he built the 12<sup>th</sup> Street Bridge and the Folsom Rainbow Bridge over the American River. The H Street steel through Truss Bridge over the American River was designed and built under his leadership.

Drury Butler's engineering career spanned a time through the 1920's when public infrastructure was in its heyday with the building of flood control projects, major bridges, dams, sewer systems and buildings, many of which he was involved with.

Drury Butler joined ASCE in 1919 and was a founding member of the Sacramento Section in 1922. He served as chair of several committees and was chosen President of the Section in 1927 by other luminaries including W. S. Caruthers, F. W. Hazelwood, R. M. Morton, George Pollock, Charles Pope, Norwood Silsbee, Thomas Stanton, Fred Tibbitts, H. E. Warrington, J. P. Winslow, and Joseph Boyd.

Butler was on advisory committees working with the California Highway Commission, the California Department of Motor Vehicles, the Association of California County Supervisors, and



the Trucking and Automobile Associations to advocate legislation regulating engineering standards and the California Vehicle Code. Butler strongly advocated professional licensing for Civil Engineers. Finally with the collapse of the St. Francis Dam in 1928, his proposed licensing legislation was passed. He held California Civil Engineering License No. 46.

In 1935, after 20 years of service as County Surveyor, Butler returned to private practice and designed two subdivisions in the City of Sacramento. He also served as a consultant designer and engineer to the Cities of North Sacramento, Galt, and Escalon. In that capacity he designed water systems, sewage treatment plants or subdivisions as needed. He also surveyed mining claims, which was an art in itself.

Butler was always active in community activities where he demonstrated wisdom, professionalism and leadership throughout his lifetime. He was president of the Carson Creek Literary Circle at age nineteen. He was a member of the University Club, the Cotillion Club, and was a charter member of the Sacramento Rotary Club. In 1916 he was a member of the Chamber of Commerce committee that initiated the campaign to make Sacramento an inland port. He was inducted as a thirty-third degree mason in 1935, the highest honor in Scottish Rite. He was only the eleventh living Sacramentan to hold that honor. *Source: researched and written by Norman Root, Chair, Sacramento Section History and Heritage Committee.*

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### **Elliott, Arthur L.**

Elliott was born in Seattle, Washington, and attended the University of Washington, graduating in 1933 with a degree in civil engineering. After several years with the U. S. Bureau of Public Roads on various Pacific Coast projects, he served as construction engineer on the San Francisco-Oakland Bay Bridge prior to entering state service in 1936. He is a member of the American Society of Civil Engineers. Elliott is married and has two children.

*Source: California Highways and Public Works, V32, Sep-Oct 1953, p49*

26 September 1973 – Arthur L. Elliott, a principal bridge engineer in charge of planning and design of bridges on the State highway system since 1953 retires September 28 [1973], after nearly 40 years of service with the now-California Department of Transportation.

Elliott, who started his career as a junior engineer on the San Francisco-Oakland Bay Bridge, achieved worldwide recognition as an authority on bridge design. In 1963, as a consultant to the Agency for International Development of the State Department, Elliott went to the Republic of the Congo, Africa, on a United Nations-sponsored highway and bridge rehabilitation project. He has also been engaged as a consultant in lawsuits in Oregon and Alaska.

During this 20 years as a bridge engineer in charge of planning, designers in the Division of Highways' Office of Structures have won over 80 awards of excellence in bridge design, in competition sponsored by industry groups such as the American Institute of Steel Construction, Portland Cement Association, James F. Lincoln Arc Welding Foundation, Prestressed Concrete Institute, American Iron and Steel Institute, and U. S. Steel Corporation. The Office has also received several beautification awards from the United States Department of Transportation.

Through affiliations with national professional organizations, Elliott has made major contributions which have furthered techniques in bridge-building. He has been on the Bridge Committee of the American Association of State Highway Officials, and chairman of the Structures Section of the Highway Research Board of the National Academy of Sciences.

Elliott is a member of the Governor's Interagency Earthquake Committee, an alternative member of the Governor's Earthquake Council, and is on the Advisory Board for the Strong Motion Instrumentation Program. He also serves as an advisor for a Federal Highway Administration-sponsored research program carried on at the University of California at Berkeley.

Elliott is a Fellow of the American Society of Civil Engineers and a member of the International Association of Bridge and Structural Engineering. In February of this year, he was presented with an award for "Outstanding Service to the Profession" by the Engineering Council of the Sacramento Valley.

Mr. and Mrs. Elliott have a son and a daughter, both married: Mrs. Donald Woods of Waterdown, Ontario; and Leonard Elliott, a mechanical engineer in Concord.

*Source: California DMV archives*

Arthur Elliott, a retired engineer who helped design more than 6,000 bridges for California's road network, died in his Sacramento home Dec 28, 2004. He was 93.

During a career with the old state Division of Highways Bridge Department, Mr. Elliott made it easier for Californians to hit the road from San Diego to the Oregon border.

As head of all bridge planning and design from 1953 to 1973, he supervised the design of more than 8,000 structures on the state highway system, according to the division now known as Caltrans, or the California Department of Transportation.

At least 6,000 of those structures were bridges, Mr. Elliott said in a 2002 interview.

Many, he said, were built over rivers, lakes, and tiny creeks.. But some, like the 29<sup>th</sup>-30<sup>th</sup> Street freeway viaduct extending for more than a mile in Sacramento, were erected on dry land.

"My father was interested in improving bridge aesthetics," Mr. Elliott's son, Leonard T. Elliott, said. "He was a pioneer of trying to improve the appearance of bridges and utilizing new techniques. He felt a lot of satisfaction in what he was able to accomplish."

Mr. Elliott's biggest project was the San Francisco-Oakland Bay Bridge. Though he didn't help design it, he was hired by the state for the mighty undertaking as a junior engineer in 1934. Among other things, he inspected giant cables as they were being installed to support the span.

After the span was opened to traffic on November 12, 1936, Mr. Elliott transferred to the Bridge Department of the Division of Highways.

*Source: Sacramento Bee, 19 January 2005*

Arthur Leonard Elliott was born in Seattle in 1911. His father, a civil engineer, moved the family into tents at various road-building sites. The experience gave his son early insights into his future career.

The family ultimately settled in Portland, where Mr. Elliott graduated from high school. In 1933, he earned a Bachelor of Science degree in civil engineering from the University of Washington.

"A job, any job, was real tough to come by in those days," Mr. Elliott told the Bee in 2002. He was "plain lucky" that the state hired him for the Bay Bridge project in 1934, he

recalled. Many years later, Mr. Elliott was featured in a History Channel documentary of the Bay Bridge, his family said.

At the end of World War II, after working on other projects for the Division of Highways Bridge Department, Mr. Elliott moved to Sacramento, where in 1953 he was named the state's chief of bridge planning. He held that title until he retired in 1973.

In 1963, he had been chosen by the U.S. State Department to visit the Congo, Africa, to survey damaged bridges.

"My father was a very creative man with a diversity of interests," his son said. "He was a woodcarver, a clock collector, and he wrote magazine articles and papers, as well as textbooks on bridge aesthetics, design and construction."

A member of the Ben Ali Shrine Temple, Mr. Elliott often performed with the Ben Ali Chanters at the Shriners Hospitals for Children in Sacramento.

"He was a very caring person," his daughter, Diane Wood, said. "He certainly cared about his family and other people that he worked with and met."

Mr. Elliott was preceded in death by his wife, Anita.

In 1993 Elliott received ASCE's John A. Roebling Medal for lifetime achievement in bridge engineering.

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### **Golzé, Alfred R.**

Alfred Rudolf Golzé was a highly accomplished civil engineer who maintained a strong interest in civil engineering students. Al was a past president of the Sacramento Section and held several high ranking positions in the California Department of Water Resources and in the US Bureau of Reclamation in Washington, D.C. Al was one of the chief engineers on the Oroville Dam Project. Al also authored several books, including *Reclamation in the US*, and a student guide for aspiring civil engineers.

*Source: California Department of Water Resources*

Alfred R. Golzé, the Department's last chief engineer and a key figure in construction of the State Water Project, died February 23 [1987] at the age of 81.

Mr. Golzé joined DWR in 1961 as chief engineer after nearly 30 years with the Bureau of Reclamation where he rose to assistant commissioner of reclamation. As chief engineer, he supervised the design and construction of the Project during its most hectic years, from 1961 to 1967, including design of Oroville Dam, the California Aqueduct, the Edmonston Pumping Plant, and the Tchacalupi Crossing. He directed the recruitment and training of some 2,000 design and construction engineers for the Department. In 1967, he was named a deputy director and the office of chief engineer was abolished on his leaving it. He then served as deputy director until he retired in 1971.

A native of Washington, D.C., he earned his bachelor's degree in civil engineering at the University of Pennsylvania at Philadelphia. His first job was as an assistant draftsman working on Philadelphia's Broad Street Subway project. In 1930 he moved to Washington to join the Interstate Commerce Commission. He went to work for the Bureau of Reclamation in 1933. With the exception of two years with the Bureau of the Budget (1943-45), he remained with Reclamation until his retirement from federal service in 1961. With the Bureau of the Budget, he

was analyst and reviewer of the public works projects of the Army Corps of Engineers and the Bureau of Reclamation. He worked on Hoover Dam, Grand Coulee Dam, and other major USBR projects of the era, and was named Assistant Commissioner of Reclamation in 1958. He was awarded the Distinguished Service Award, the highest honor of the Department of the Interior, in 1962.

With DWR, he was presented the Director's Award in 1966 for engineering leadership.

Mr. Golzé was the author of three books, "Reclamation in the United States," "Handbook of Dam Engineering," and "Your Future in Civil Engineering," and many professional papers and reports. He was a past president of the Sacramento and Capital City sections of the American Society of Civil Engineers, and served on the U.S. Committee on Large Dams, the International Commission on Irrigation and Drainage, and the Society of American Military Engineers.

Mr. Golzé is survived by his wife, Gladys, of Sacramento, a son, Peter, a daughter, Gretchen Montgomery, and five grandchildren.

*Source: California Department of Water Resources*

Mr. Golzé is a career Federal employee with 28 years of service, including 23 with the Bureau of Reclamation. He will be responsible for general administrative detail, including contract administration, programs, finance, personnel, and management. He had previously been Chief of the Division of Program Coordination and Finance.

Mr. Golzé is a native of Washington, D.C., and a graduate in civil engineering from the University of Pennsylvania. He is presently vice president of the National Capital Section of the American Society of Civil Engineers and a member of the National Committee on Engineering Education of ASCE.

He began his public career as a Junior Civil Engineer in the Interstate Commerce Commission in 1930, and transferred to the Bureau of Reclamation as a Design Engineer in the Denver Office in 1933. He was responsible for all Civilian Conservation Corps activities in the Bureau in the late 1930's and in 1943 went to the Bureau of the Budget in San Francisco.

In 1945, he returned to the Bureau of Reclamation as Assistant Director of the Branch of Operation and Maintenance. He was made Director of the Program and Finance Division in 1947.

*Source: US Bureau of Reclamation, May 1958*

Assistant Commissioner Golzé retired from the Bureau to accept the position of chief engineer of the California State Department of Water Resources. He reported for duty at Sacramento on February 20 [1961]. His appointment resulted from a nationwide State Civil Service examination held last June.

Mr. Golzé began his public career as a junior civil engineer in the Interstate Commerce Commission in 1930 and transferred to the Bureau of Reclamation as a design engineer in the Denver Office in 1933. In 1943 he went to the Bureau of the Budget in San Francisco as an assistant field representative and conducted a study of western water development plans.

He returned to the Bureau of Reclamation in 1945 as assistant director of the Branch of Operation and Maintenance. He became director of the Program and Finance Division in 1947 and under his direction the program and budget operations of the Bureau were modernized to

meet Congressional requirements and Bureau management needs. He became an Assistant Commissioner in February 1958.

Mr. Golzé, a native of Washington, D.C., is a graduate in civil engineering from the University of Pennsylvania, with post-graduate studies at the University of Colorado and George Washington University.

*Source: US Bureau of Reclamation, 1961*

Alfred R. Golzé, a former California chief water resources engineer, died on February 23, 1987, in Sacramento, Calif. He became an Honorary Member of ASCE in 1976.

Golzé was a 31 year veteran of federal service in various capacities. He was with the US Bureau of Reclamation for XXXX years. In 1961 he began an 11 year commitment to the state of California XXXXing the engineering for the Department of Water Resources, (which included the design and construction of Oroville Dam and the high lift Tehachapi Crossing).

As chief engineer of the state, he directed the design, construction and initial operation of the massive State Water Project, one of the largest projects of its kind ever undertaken. On completion of the project, Golzé left state service to work for XXXX & Roe, Inc, in Oracle, N.J. as chief water resources engineer.

In ASCE activities, Golzé was very active. He served both the National Capital and Sacramento Sections as president; was the chairman of the Committee on Engineering Education and the Committee on National Water Policy.

He has also served on the U.S. Committee on Large Dams, where, under his aegis, model-law legislation for state supervision of dams was prepared and has been made available to 50 states and many foreign countries.

He was a graduate of the University of Pennsylvania at Philadelphia. Golzé was the author of a book entitled Reclamation in the U.S., among other publications.

*Source: Civil Engineering, April 1987, p. 78-80*

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### **Gross, Joseph W.**

Joseph Watson Gross, the son of Lee N. and Anna W. Gross, was born on September 13, 1884, at Mitchell, SD. In 1894 the family moved to Oakland, CA, where Mr. Gross was educated, graduating from high school in 1903.

He entered the University of California at Berkeley, and graduated in 1907 with a Bachelor of Science in Civil Engineering. After graduation, Mr. Gross took an active part in all phases of civil engineering – surveying, drafting, estimating, planning, and supervising construction.

Always advancing, he was in charge, as chief deputy county engineer of Sacramento County, of the construction of the first bascule bridge across the Sacramento River. As chief deputy city engineer of Sacramento, he was responsible for the planning and construction of a program of sewer, dock, wharf, and flood control work, estimated at \$3,000,000.

During two years' work with the newly organized California State Highway Commission, Mr. Gross gained experience in highway and bridge engineering, and, as assistant examiner with the State Civil Service Commission, he widened his circle of friends.

During WWI, he was assistant to the chief engineer representing Monks and Johnson of Boston, MA, and was in charge of much of the designing and construction of Liberty Yard, at Alameda, CA, a ship-building plant of an estimated cost of \$25,000,000.

In 1920, he opened his own office in Sacramento, specializing in municipal and agricultural engineering. Thereafter, he was closely identified with water problems in northern California and was in demand as an expert witness. His clients had implicit confidence in his judgment and integrity.

Mr. Gross was instrumental in organizing the first University Club in Sacramento, which was disbanded during WWI when most of its members entered the armed services, and also in organizing the Sacramento Engineers Club, disbanded when the Sacramento Section of the Society was formed in 1922. Mr. Gross was a charter member of the Sacramento Section, its first Secretary, and in 1929, its President.

Always active in local Section affairs, he was particularly interested in the University of Nevada student chapter at Reno, and in junior member activities. During the depression years, much of his time was devoted to finding or helping "make" temporary jobs for unemployed engineers. Through his efforts, the Sacramento Section built up an "unemployment fund," later known as the "Joseph W. Gross Relief Fund." From which small loans were made which accomplished much good. Most of these loans were eventually repaid.

He was a member of Sacramento Lodge No. 40, Free and Accepted Masons, of the Scottish Rite Bodies of Sacramento, and of Ben Ali Temple, Ancient Arabic Order of Nobles of the Mystic Shrine. He belonged to the American Society of Agricultural Engineers, the American Geophysical Union, and the Commonwealth Club. Mr. Gross' professional specialty was agricultural engineering, his avocation was California engineering history. His collection of original reports, maps, and plans of the great flood of 1862, and of the Central and Pacific Railroads, is priceless.

He was married to Marjory May in Sacramento on May 5, 1917. He is survived by his widow; three children: Joseph W. and twins, Richard S. and Barbara (Mrs. W. T. Hume); and three grandchildren.

Mr. Gross was elected a Junior of ASCE in 1908; an Associate Member in 1913, and a Member in 1929. He became a life member in 1948. *Source: Transactions of the American Society of Civil Engineers, V118, 1953, obituary prepared by Norwood Silsbee, Walter E. Stoddard, and Fred J. Grumm.*

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**Hall, William H.**

William Hammond Hall was a civil engineer who was the first State Engineer of California, and designed Golden Gate Park in San Francisco, CA.

After serving with the U.S. army engineers in the Civil War, Hall was assigned in the latter part of the 1860s to surveying the Western regions of the United States and preparing topographical maps.

During this same time, the citizens of San Francisco were considering building a grand park for their new and growing city. The city designated a tract of 1,013 acres (4.10 km<sup>2</sup>) stretching out to the ocean that was known as the "outside land." In 1870 the Park Commission solicited bids for a topographical survey which was awarded to Hall. After the successful completion of that task, he was appointed Golden Gate Park's first superintendent in 1871.

Hall devised a plan to improve the Park. The design included a Panhandle along with two main drives. Additionally, the outside land was covered with sand dunes which needed to be removed and replaced by forest trees. 60,000 trees had been planted by 1875 (Blue Gum Eucalyptus, Monterey pine and Monterey cypress). Plantings continued and there were 155,000 trees planted by 1879.

In 1876, Hall was elected a member of the California Academy of Sciences, and was appointed California's first State Engineer. Despite his new responsibilities, he retained the position of consulting engineer to Golden Gate Park until he resigned in 1890, and was replaced by his assistant John McLaren.

As California's State Engineer, Hall worked on a comprehensive water supply and flood control system for the Sacramento Valley. Hall's study of California's hydrology lasted from 1878 through 1883. In that time, his staff installed an extensive flow gauging system along some of California rivers. He was also instrumental in designing projects to help San Francisco acquire adequate supplies of water from the western watershed of the Tuolumne River. Following the earthquake of 1906, San Francisco was able to secure the rights to the water, and it flooded Hetch Hetchy Valley. *Source: Wikipedia*

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### **Hveem, Francis N.**

F. N. Hveem, the new Materials and Research Engineer, has succeeded to the position after serving more than 20 years in the Materials and Research Department in various capacities which under present civil service terminology would range from Assistant Highway Engineer to Principal Engineer. Hveem is a home-grown product in every sense of the word, having been born in Shasta County, California, February 8, 1898. He claims vivid recollections of an early childhood spent in mining camps and dwelling in log cabins.

He entered the employ of the State of California in November, 1917, at the age of 19 as a draftsman in the office of Division II, then located in Dunsmuir. The first state highway construction through the Sacramento Canyon was under way at the time, and Hveem was induced to take the job through the advice and assistance of Spencer Lowden, then Resident Engineer. After 13 years of miscellaneous experience which included Assistant Resident Engineer, then

Resident Engineer, and Maintenance Superintendent, Hveem joined the staff of the Materials and Research Department in December, 1929. Since that time he progressed through the various civil service grades with positions of increasing responsibility to Supervising Materials and Research Engineer and principal assistant to Mr. Stanton.

Hveem was chiefly identified with the work on bituminous materials and pavement practices, expanding his activities into the realms of soil mechanics, soil materials, and to concrete pavements. He is the author of over 20 papers on technical subjects, receiving the Highway Research Board award for the outstanding paper in 1948. He has been responsible for the development of a number of devices for testing materials, the best known of which is the Hveem Stabilometer which has been adopted for use in many states and foreign countries.

Hveem was appointed Construction Engineer in September, 1950, and leaves that position to take up the duties of Materials and Research Engineer succeeding Mr. Stanton on June 1, 1951.

*Source: California Highways and Public Works, V30, May-Jun 1951, p11*

Francis N. Hveem, Materials and Research Engineer for the State Division of Highways, retired on September 30, [1963] culminating a 45-year engineering career which has brought him an international reputation in the field of highway research and testing.

Testing equipment, procedures, and design theories developed by him and under his supervision have been accepted and used throughout the United States and many foreign countries and, in turn, engineers from abroad have come to the United States to study his methods.

Some of the better known devices and test methods he developed are the stabilometer, the cohesiometer, sand equivalent apparatus, and profilograph. The series of barrier crash tests using remote controlled vehicles and anthropometric dummies which he promoted and directed has furnished valuable highway design and safety information now being used by other highway departments throughout the United States. His formulas for the design of asphalt pavement are also recognized as one of his outstanding contributions to the highway science field.

He is the author of more than 40 technical papers, most of which have been presented before meetings of the Highway Research Board, the American Society for Testing Materials, the American Concrete Institute, and the Association of Asphalt Paving Technologists.

Among Hveem's honors are the Highway Research Board's award for the paper of outstanding merit in 1949 and the Roy W. Crum Award for distinguished service in 1956. The University of California has awarded him an honorary membership in the university's chapter of Chi Epsilon, civil engineering honor society.

Hveem was born in La Moine, Shasta County, and received his early schooling at the nearby community of Delta.

He started his career with the State in 1917 as a draftsman for the Division of Highways in Dunsuir.



He became an assistant resident engineer in 1918 and a resident engineer in 1924. He was promoted to maintenance superintendent in 1925.

In 1929 he joined the Materials and Research Department, having attracted the attention of its then chief, the late Thomas E. Stanton, by his independent field research in design and control of bituminous mixtures for highway surfacing. It was during the ensuing years that Hveem began to build a national and later international reputation, first as a specialist in bituminous mixes and later extending into the broader field of highway research and testing.

Hveem was named Construction Engineer for the division in 1950, and in 1951, on the retirement of Stanton, returned to the laboratory as its chief. He played a leading role in the planning and operation of the test track in Idaho, a co-operative project of the 11 western states with federal agencies and private industry. He also helped plan the national test road in Illinois. The purpose of these test roads was to analyze the effect of loads of varying weight on different types of highways.

The materials and Research Department now has more than 300 employees, not including 350 people operating 11 district laboratories throughout the State. The work assigned to the department is carried on in five sections: Administration, Foundation, Pavement, Structural Materials and Technical (the latter primarily concerned with cement, concrete, and chemicals).

To give some idea of the volume of the department's activities, a perusal of the last fiscal year's report shows that it tested nearly 11,000 samples of asphalt, some 14,500 concrete cylinder specimens and 9,000 control checks on samples representing 2,500,000 barrels of cement. Numerous other tests were made on prestressing and structural steel, barrier cables, electrical equipment, sheeting and paints. The division's 11 district laboratories performed more than 166,000 tests on soils and aggregates. The Materials and Research Headquarters Laboratory at 5900 Folsom Boulevard, Sacramento, conducts all basic research involving materials while the district laboratories handle most of the materials testing.

Much in demand as a consultant, Hveem has traveled through much of the United States and abroad, has accepted invitations from national highway departments in Argentina, Brazil, Mexico and Egypt, the last named through the Technical Assistance Program of the United Nations.

He holds membership in the American Concrete Institute, the Highway Research Board, the American Society for Testing Materials, the Association of Asphalt Paving Technologists and is past president of the Sacramento chapter of the American Society of Civil Engineers. He at present holds appointments to 12 national committees of technical societies including the Flexible Pavement and Rigid Pavement Design Committees of the Highway Research Board and the Road and Paving Materials Committee of the American Society for Testing Materials.

Hveem and his wife Evelyn have four children and seven grandchildren.

*Source: California Highways and Public Works, V42, Sep-Oct 1963, p47*

In 1964 Hveem won the W. J. Emmons Award of the Association of Asphalt Paving Technologists. The award was for the best paper presented at the 1963 meeting which was held in San Francisco. Hveem shared the award with co-authors Ernest Zube, supervising materials and research engineer, and John B. Skog, senior materials and research engineer. Title of their paper was "Proposed New Tests and Specifications for Paving Grade Asphalts."

*Source: California Highways and Public Works, V43, Mar-Apr 1964, p13*

It is with much regret that we here note the passing early this past summer of former member Francis N. Hveem. Elected to membership in 1966, Mr. Hveem served on several committees and as a director over the years until declining health curtailed his participation.

A former chief of the materials and research department of the California Division of Highways, he was internationally known for his work in asphalt concrete paving. Soft-spoken, with a somewhat wry sense of humor, he was the recipient of two awards from the Transportation Research Board of the National Academy of Science, and held honorary membership in the Association of Asphalt Paving Technologists – being only one of five so elected since the founding of the group in 1932. His book collecting interest, which he once told this editor was of minor consequence, centered on the boys' adventure novels of G. A. Henty.

*Source: Sacramento Book Collectors Club, Fall, 1990 newsletter*

Services were held for Francis N. Hveem, a former chief of the materials and research department of the California Division of Highways.

Born in La Moine, Shasta County, Mr. Hveem joined what was then the highways division in 1917 as a draftsman. After 12 years in various positions, including service as resident engineer and maintenance superintendent, he joined the materials and research department, which is now the Department of Transportation Laboratory.

He served 33 years at the laboratory and developed several pavement-testing devices. In 1948, he introduced the current Caltrans design procedure for asphalt concrete pavements.

Known internationally for his work, Mr. Hveem received two awards from the Transportation Research Board of the National Academy of Science, and was elected to honorary membership in the Association of Asphalt Paving Technologists, only the fifth person to be awarded that honor since the association was founded in 1932.

During his career, Mr. Hveem traveled throughout the world as a consultant and speaker and authored numerous articles for professional publications of asphalt paving technology. He was a member of 12 national technical committees when he retired in 1963.

Mr. Hveem is survived by his wife of 60 years, Evelyn; daughters Marcella Seibert of Sacramento, Sonya Johnson of Hayward, and Karen Somes of Los Angeles; a sister, Lela Rusk of Chico, five grandchildren, and two great-grandchildren.

*Source: Sacramento Bee, 3 July 1990*

[Hveem was President of Sacramento Section in 1956.]

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**Judah, Theodore D.**

Theodore D. Judah was born in Bridgeport, Connecticut. Judah studied engineering at Rensselaer Polytechnic Institute after his family moved to Troy, New York.

After working on a number of railroads in the Northeast, Judah was hired as the Chief Engineer for the Sacramento Valley Railroad in California, the first railroad west of the Mississippi River. Throughout the 1850s, Theodore Judah was known as "Crazy Judah" because of his single-minded passion for driving a railroad through the wall of mountains known as the Sierra Nevada, something that was considered impossible by many at the time.

As the chief engineer of the Central Pacific Railroad, he surveyed the route over the Sierra Nevada along which the railroad was eventually built during the 1860s. Failing to raise funds in San Francisco, he was successful in signing up four Sacramento merchants--the "Big Four" who actually built the Central Pacific. They were Leland Stanford, Collis P. Huntington, Mark Hopkins, and Charles Crocker. His tireless lobbying efforts in Washington, D.C., at the behest of the Central Pacific Railroad, were largely responsible for the passage of the 1862 Pacific Railroad Act, which authorized construction of the First Transcontinental Railroad. After passage of the 1862 Act, the Big Four increasingly marginalized Judah and they put Crocker in charge of construction. Construction was completed in 1869, and virtually the entire course of the railroad ended up following Judah's plans. Judah died in 1863 of yellow fever at the age of 37. *Source: Wikipedia*

### **Theodore Dehone Judah – Railroad Pioneer**

By John D. Galloway, Hon. M. ASCE

Consulting Engineer, Berkeley, CA

*Civil Engineering*, October and November, 1941

#### Part I. Concept of Conquest

Those who today enjoy the luxury of air-conditioned transcontinental railroad service little realize the hardships of the early builders who made this service possible. Among the epics of the West is the story of the building of the Central Pacific line, still in active use. One man, Theodore Judah, envisioned the great possibilities of this route, and "Civil Engineering" is here privileged to present the story of his life, in line with its policy of publicizing major engineering accomplishments and personalities. Mr. Galloway here sets forth Judah's apprenticeship years in the East and the West, his dream of the Sierra crossing, and his realization of its formidable difficulties. The story of his final triumph against odds of physical and human nature will be told in a later issue

On the green lawn in front of the Station Building of the Southern Pacific Railroad, in the City of Sacramento, the capital of California, may be seen one of the few monuments erected in America to the memory of an engineer. Most fittingly, the monument is made up of the massive granite boulders from the high Sierras, the snowy summits of which may be seen on a clear day from the capital city. It bears in enduring bronze the medallion of the engineer, together with a brief statement of his services in organizing and locating the Central Pacific system. This

monument was erected to preserve the memory of one of the most gifted engineers of the previous century, Theodore Dahone Judah. But one other American railroad engineer seems to have been thus honored – John F. Stevens, whose statue stands on the Marias Pass where the Great Northern Railroad crosses the summit of the Rocky Mountains. On the abandoned line of the Union Pacific over the Rocky Mountains, at the Sherman summit, over 8,000 ft. above sea level, a huge granite pyramid has long stood recording the services of Oakes and Oliver Ames, the Boston financiers who made the railroad possible. The monument should have been dedicated to Grenville M. Dodge, the great chief engineer who located the line through Sherman Pass.

Almost two-thirds of a century elapsed after Judah left the scene of his labors in the mountains of California before his name was perpetuated by the memorial. The trains of the great railroad have passed and repassed over the line he located countless times since his death, and they bid fair to do so as far into the future as one may see. Yet few recall his name or services.

It is a pleasure to turn back to the middle of the nineteenth century, when a pioneer society allowed the engineer great freedom of initiative and accomplishment. The work of Judah and of the other able men who projected and carried out the building of the Union and Central Pacific railroads in the decades of 1850 and 1860 was done as the culminating effort in the movement of the American people from the Atlantic to the Pacific. That movement took place because able men were allowed to come to the front and lead in the great enterprise. It is altogether fitting to remind the present generation of one in the long line of brilliant engineers who built the railroads of the country. The list of such men is an honorable one and deserves to be recorded for the benefit and inspiration of those who come after.

#### Inscription Appearing on Judah Memorial

THAT THE WEST MAY REMEMBER THEODORE DEHONE JUDAH, PIONEER, CIVIL ENGINEER AND TIRELESS ADVOCATE OF A GREAT TRANSCONTINENTAL RAILROAD – AMERICA’S FIRST – THIS MONUMENT WAS ERECTED BY THE MEN AND WOMEN OF THE SOUTHERN PACIFIC COMPANY, WHO, IN 1930, WERE CARRYING ON THE WORK HE BEGAN IN 1860. HE CONVINCED FOUR SACRAMENTO MERCHANTS THAT HIS PLAN WAS PRACTICABLE AND ENLISTED THEIR HELP. GROUND WAS BROKEN FOR THE RAILROAD JANUARY 8, 1863, AT THE FOOT OF K STREET, NEARBY. JUDAH DIED NOVEMBER 2, 1863. THE ROAD WAS BUILT PAST THE SITE OF THIS MONUMENT, OVER THE LOFTY SIERRA – ALONG THE LINE OF JUDAH’S SURVEY – TO A JUNCTION WITH THE UNION PACIFIC ON A PROMONTORY, UTAH, WHERE ON MAY 10, 1869, THE “LAST SPIKE” WAS DRIVEN.

This memorial project was initiated and carried through by W. H. Kirkbride, Chief Engineer of the Southern Pacific Company.

The claim of Theodore Judah for a place in the record rests on a number of counts – on qualities and accomplishments not ordinarily found in engineers, especially not in a single person. As a young man engaged in railroad work, he was a dreamer who envisioned the great project of a railroad crossing deserts and mountains to connect the East and West. As a promoter he was

subjected to the slurs and backbiting of his contemporaries – the crowd ever unwilling to recognize a great man among them and resisting his efforts to “lead them a little from the ruck of things.” He projected a railroad across a great range of granite mountains, snow covered in winter and so high and difficult that their conquest had never before been considered or attempted. He departed from established procedure in locating the line on a ridge of the mountains and not in a canyon following a river. As an organizer he formed the railroad company and enlisted the services and abilities of other men who carried out the project long after he was dead. Finally, as a clear exponent of the project, Judah was able to convince the wrangling men of the nation’s Congress that here at last, after years of talking, was a feasible project.

Before he died, the work he had dreamed of was well on its way to realization. The general route of the road had been determined, the necessary laws passed, the financial problems partly solved, the rails laid on a short stretch of the line – and trains were running! An untimely illness ended his career, but his clear vision in locating the western end of the first transcontinental railroad entitles him to lasting recognition. No one has challenged his work; many have voiced approval’ and no essential changes have been made in the line that he located. Other transcontinental railroads have been built, but to the builders of the first one, in the face of the unprecedented difficulties that confronted them, must go the greater credit that is theirs.

Theodore Dehone Judah was born at Bridgeport, CT, on March 4, 1826. When he died in New York on November 2, 1863, he lacked four months of being thirty-eight years of age. Into those brief years he packed more than a normal lifetime of accomplishment. His father, an Episcopal clergyman, had three sons. Besides Theodore, there were Henry M. Judah, who became a brigadier general in the Civil War, and Charles D. Judah, who went to California in 1849 and became a member of the law firm of Hackett and Judah.

While Theodore was a boy, the family moved to Troy, NY. There was some thought of entering the youth in the Navy, but he was attracted to engineering and was sent instead to Rensselaer Polytechnic Institute, from which he graduated. Out of school, his first work was on the Troy and Schenectady Railroad, and he continued in railroad work until his death, the only exception being his position as construction engineer on a section of the Erie Canal between Jordan and Seneca, NY. His railroad work included service on the New Haven, Hartford and Springfield Railroad, the Connecticut River Railway, and the Buffalo and New York Railway, now a part of the Erie system. He also located and built the Niagara Gorge Railroad, then considered a difficult piece of construction. At one time he supervised the construction of a bridge at Vergennes, VT.

At Greenfield, MA, Judah met Anna Feron Pierce, the daughter of a local merchant, and married her on May 10, 1847. that young lady, like many other engineer’s wife, followed her wandering husband to the distant and unknown land of California. After his death she wrote a description of his work and defended him against the unjust slanders which the enemies of his project directed against him to serve their own interests.

In 1852 a group of Californians, among them the young Capt. William Tecumseh Sherman, were projecting a railroad eastward from Sacramento towards the foothills of the Sierra Nevada and also northward along the range in order to secure the trade of the mining regions in the mountains beyond. The president of the road, on the recommendation of Governor Horatio Seymour of New York and his brother, Silas Seymour, a railroad engineer of prominence, sought Judah’s services as chief engineer. Judah telegraphed his wife: “Be home tonight, we sail for California April second.” This was in March 1854, while he was engaged on the Buffalo and

New York Railway. Mrs. Judah described his homecoming thus: "You can imagine my consternation on his arrival that night. It was all laid out in these words: 'Anna, I am going to California to be the pioneer railroad engineer of the Pacific Coast. It is my opportunity, although I have so much here.' He had always talked, read, and studied the problem of a continental railway and would say: 'It will be built and I am going to have something to do with it.'"

The young couple sailed by the Nicaragua route, and by May 1854 Judah was at work on his surveys for the Sacramento Railroad. It was to be built due eastward from Sacramento to Folsom, a distance of about 25 miles. A contract was awarded in November 1854; grading commenced in April 1855; the first rail was laid on August 9 of that year; and the line was in operation by February of the next. All the work was done under the charge of Judah although he left shortly before its completion. This was the first railroad to operate in California. Later, as mining fell off, traffic declined, and the road was afterwards sold to the Central Pacific. The cost had been about \$60,000 per mile.

This was the period when railroad projects were being proposed in every direction in the central valley of California. And for the next three years, 1856-1859, Judah was connected with several of these. However, he never lost sight of the main problem, one of much greater magnitude, the railroad across the country to the Missouri River. In this connection, Mrs. Judah writes:

"Everything he did from the time he went to California to the day of his death was for the great continental Pacific Railway. Time, money, brains, strength, body and soul were absorbed. It was the burden of this thought day and night, largely of his conversation, till it used to be said 'Judah's Pacific Railroad crazy' and I would say: 'Theodore, those people don't care' or 'You give your thunder away.' He'd laugh and say 'But we must keep the ball rolling.'"

It was his persistence in advocating the railroad that finally won the day but at times he was a great nuisance to his acquaintances by his constant discussion of the project.

It will not be out of order at this point to examine for a moment the problems to be faced in building a railroad across the country. Such a road had been talked of for many years. On the eastern end the problem had been solved by the men of the Union Pacific, among whom Grenville M. Dodge, one time Honorary Member of the Society, is perhaps the best known. The chief barriers in the way of a road from Omaha to Sacramento were several mountain ranges and over a thousand miles of desert. The California end of the line was to be at Sacramento, capital of the state. A later extension to San Francisco was projected.

Eastward of the great valley of California lies the Sierra Nevada, a mountain barrier about 400 miles long. Where the Central Pacific was built the peaks vary from 8,000 to 11,000 ft. in height and the passes from 7,000 ft. up. The mountains are a tilted fault block, with a long sloping rise of 7,000 ft on the west from Sacramento Valley to the passes and a sharp descent of about 3,000 ft on the east to the bordering valleys.

A feature of this mountain chain in the area under consideration is that it breaks into two ranges of about equal elevation, between which lies beautiful Lake Tahoe. The lake and the surrounding watershed are drained by the Truckee River. This stream flows northward, then turns east, and after passing through the eastern range of the Sierra Nevada, the Truckee meadows, and the Virginia range, turns another right angle to flow northwestward into Pyramid Lake. Thus the Truckee River furnished a route eastward except for a barrier of some fifty miles between it and the Humboldt River, the only stream of Nevada that finds its way through the basin ranges of that state. To reach the Truckee River by a direct route from the west, it was necessary to cross the Sierra Nevada through a pass at an elevation of at least 7,000 ft.

Emigrant trails from the East had led down the Humboldt and across the Sierra Nevada either by Carson Pass at the headwaters of the Carson River (El. 8,650 ft) or across several passes at the headwaters of the Truckee River. The route was well known and the passes used were largely determined by the destination of the traveler. However, it will be recognized that a railroad must be built with practicable grades, a factor that, as a rule, was not of such great importance in the wagon travel of that day.

On the western slope of the Sierra Nevada the rivers have a steep pitch near the granite summits, and have incised deep canyons into the original plane of the mountains. For this reason, the usual method of locating a railroad along and up a river channel could not be followed. A line so located would be deep in a canyon when it reached the main mass of the mountains and would have to climb out on impossible grades, in order to cross the range. Tunnels might be a solution, but at the time under review they were out of the question.

It was indeed a formidable task that faced Judah as he came to tackle his greatest work, in conquering the western end of the transcontinental line. He had the vision of a great accomplishment; he had the training and experience to cope with difficult engineering problems; he had the will and the indomitable energy to prosecute the venture. What he could hardly anticipate – fortunately for him, perhaps – were the obstacles of personality, of human cupidity, that were to loom even larger in their effect than the mountain barriers themselves. The account of his success forms a separate story.

## Part II. Surmounting the Sierra Nevada

Building of the Central Pacific Railroad, starting from tidewater on the Pacific to complete the first transcontinental line, easily ranks as one of the most important if not the greatest engineering exploit of the early West. It was largely the work of one man, Theodore Dehone Judah. Trained in the East, he had built the 22-mile Sacramento Railroad in California before he was 30 years old. During this time he was obsessed with the ambition to conquer the Sierra crossing. This longing, which seemed fantastic to his friends, possessed his mind continuously. Some of the details of his ambitious dreams were given in the article in the October issue.

By 1859 Judah had attended three sessions of Congress with the aim of furthering the Pacific Railroad Project. The results of the Government surveys had become known, and the agitation for the railroad was growing in strength. The Government reports, while complete, could not of themselves produce a railroad. Congress could not agree upon a route, and was absorbed by the problems that culminated in a few years in the Civil War. On January 1, 1857, Judah published in Washington a pamphlet entitled “A Practical Plan for Building the Pacific Railroad,” in which he outlined the substance of a project to be built by private enterprise without Government aid. He felt that the national Government was “a house divided against itself”; that the project could not be undertaken “until the route is defined; and if defined, the opposing interest is powerful enough to defeat it.”

His estimate of the general situation was correct. He maintained that what was required was a definite survey on a selected route and not general reconnaissances of several routes, on which differences of opinion would certainly arise. He stated that about \$200,000 was required for surveys and that the project for the 2,000 miles of road would average about \$75,000 per mile, or a total of \$150,000,000.

Congress did nothing. So Judah returned to Sacramento, convinced that the Pacific Railroad must be promoted from the West. Probably under his inspiration, the California State Legislature on April 5, 1859, passed a resolution calling for a convention to consider the subject. Over one hundred delegates met in San Francisco on September 20, 1859, with Judah as a representative from Sacramento. As usual, debate centered on the route to be adopted, and a resolution was passed expressing preference for the Central Railroad route. A number of ideas were discussed by the convention. In all the actions taken, Judah had a prominent part. In the end, on October 11, 1859, he was formally appointed as the accredited agent of the convention to convey its recommendations to Washington. Judah sailed on October 20, 1859.

Although Judah established an office in the Capitol, filled with maps and other data for the enlightenment of Congress, the necessary bills never reached a vote. His work, however, had laid a foundation for the later bills, passed in 1862.

While Judah was in the East, he took pains to accumulate the latest information on railroads that might be useful in the Western venture. Several lines across the Appalachian Mountains, notably the Baltimore and Ohio, were fine examples of this type of construction. He returned to California convinced that nothing could be done in Congress until an actual project was outlined, with proper surveys, estimates, and organization.

In 1860 Judah was in the mountains, making a reconnaissance of several routes, using a barometer to determine elevations. Dr. Daniel W. Strong, a druggist of Dutch Flat, CA, had heard of the explorations of Judah and invited him to come to Dutch Flat and examine the Donner Pass route. When Judah reached Dutch Flat he formed a friendship with Strong that lasted the rest of his life. This route had been traveled by some of the early emigrants, who came up the Truckee River and crossed the divide. Mostly, however, they used the more favorable wagon roads to the north and south. By this time the tide of immigration had turned eastward to the mines of Nevada, and Dr. Strong, with others, were interested in a possible wagon route over Donner Pass to divert traffic through his home town.

It is hardly necessary to argue as to who deserved the honor for determining the route of the railroad over the Sierra Nevada. Dr. Strong undoubtedly is entitled to the credit for suggesting a route that had been known for over ten years as an emigrant trail. However, it required the trained eye of a practical engineer to determine in a preliminary way the merits of the location that was afterward adopted. The two men went over the route across the mountains in the fall of 1860, and on their return Judah prepared the engineering data at Dr. Strong's store in Dutch Flat. It was agreed that a corporation should be formed and articles were written with that end in view. Judah prepared a pamphlet entitled "Central Pacific Railroad of California," published in San Francisco in November 1860, in which he advocated the chosen route, as the most practicable one, "which gives nearly a direct line to Washoe with maximum grades of one hundred feet per mile. The elevation of the Pass is 6,690 ft." Washoe was the name then applied to the Virginia City-Gold Hill developments in Nevada. One point made by Judah was that the proposed route was shorter by possibly 150 miles than that recommended in the Government reports. He also dwelt upon the possibilities of traffic with the Nevada mines and estimated the resulting revenue from it. Government aid was contemplated.

Dr. Strong secured subscriptions amounting to \$46,500 and Judah went to San Francisco to secure the remainder, some \$70,000. While he was well received at first, when the time came for subscriptions, none or those approached were willing to sign their names. Judah, who was called an enthusiastic lunatic, went back to Sacramento, disgusted with San Francisco. A meeting in Sacramento, the first of several, was well attended. At later meetings, Judah for the first time met



the men who were to carry out the project – Leland Stanford, Collis P. Huntington, Mark Hopkins, and Charles Crocker. Huntington was cautious and only agreed to share the cost of the surveys; after those were made, he would consider the subject further.

As a result of Judah's efforts, an organization meeting of stockholders was held on April 30, 1861, and on June 28, the Central Pacific Railroad of California was incorporated. Leland Stanford, just nominated for governor on the Republican ticket, was made president. Huntington became vice-president, Hopkins secretary, and Judah, chief engineer. Strong was a director.

The organization gave Judah the necessary money for surveys, and he soon organized field parties. A barometric reconnaissance was also made of two other possible routes, both of which proved markedly inferior to that proposed. The results were embodied in a report by Judah dated October 1, 1861, in which the merits of the route were discussed and the benefits from Government assistance were set forth. The cost from Sacramento to the state line was estimated at \$12,380,000 and costs to several other more distant points as far as Salt Lake City were also estimated, the total 733 miles to that point being \$41,415,000. Judah's route resulted in saving a distance of 184 miles over the Government route and, in his own words, in "developing a line with lighter grades, less distance, and encountering fewer obstacles than found upon any other route or line hitherto examined across the Sierra Nevada Mountains."

Referring to the engineering problem of location he explained:

"When it is considered that the average length of the western slope of the Sierra Nevada Mountains, from summit to base, is only about 70 miles and the general heights of its lowest passes about 7,000 ft, the difficulty of locating a railroad line with 100-ft [per mile] grades is correspondingly increased, as it becomes absolutely necessary to find ground upon which to preserve a general uniformity of grade.

"In the present instance, the elevation of the summit ... is reached by maximum grade of 105 ft per mile; showing a remarkable regularity of surface, without which the ascent could not have been accomplished with this grade."

In describing the ridge up which the road was located, he said:

"These rivers run through gorges or canyons, in many places from 1,000 to 2,000 ft in depth, with side slopes varying from perpendicular to an angle of forty-five degrees. The ridges formed by these rivers are sharp, well defined, and in many places so narrow on top as to leave barely room for a wagon road to be made without excavating surface of ridge. The branches, also, of many of these rivers have worn out gorges as deep as those of the rivers, and present physical barriers to a line of communication either crossing them or extending in a northerly and southerly direction. The line on the top or crest of ridge being far from uniform, of course the lowest points or gaps in ridge become commanding points, and it was found necessary to carry the line from gap to gap, passing around the intervening hills, upon their side slopes."

The controlling gaps that were of the most importance were Clipper Gap, 42 miles from Sacramento; New England Gap, 6 miles farther; Long Ravine, about 4 miles from Illiniostown (Colfax); and Emigrant Gap, 82 miles from Sacramento. Beyond this the line, as finally located, was on the side of a mountain and the gaps no longer controlled the surveys.

Following the report in October 1861, the directors authorized Judah "to ... proceed to Washington, as the accredited agent of the ... Railroad, for the purpose of procuring appropriations of land and U.S. Bonds from the Government to aid in the construction of this road."

Upon his arrival he began an active campaign for the bill for a Pacific Railroad. Through Senator Sargent of California, a subcommittee of the Pacific Railroad Committee was appointed

to draft the bill. Judah had obtained the appointment as secretary of the Senate Committee and was also made clerk of a subcommittee in the House. Finally, on July 1, 1862, the bill became a law with President Lincoln's signature. Land rights of way, and aid in the form of first-mortgage Government bonds were the essential elements of the bill, which also provided for the organization of the Union Pacific Railroad Company. Bonds were to be issued when 40 miles of railroad had been constructed.

After some preliminary items had been adjusted, Judah went to New York to order supplies. Formal acceptance of the contract between the Government and the Central Pacific Railroad Company was signed November 1, 1862. Judah sailed for California the 21<sup>st</sup> of July, his long struggle for the railroad completed. His success was largely due to his own efforts, without money or influence.

On his return to Sacramento, he filed his second report with the company, dated October 22, 1862. He enumerated the advantages of the arrangement with the Government, the value of the land grants, the amount of lumber available, and the anticipated revenue, largely from local traffic and the traffic with Washoe. His estimates, based on actual count of freight and passenger traffic on the American River route, may have been overly optimistic, but they showed that a good business existed. One point may be mentioned that was of importance in expanding the ideas of his associates; the act of 1862 permitted the California company to build eastward until it met the Union Pacific Railroad and Judah urged the company to promptly extend its surveys as far as Salt Lake. The road was rapidly taking on the character of a transcontinental line, with the greater cost and larger outlook.

Construction started on January 8, 1863, when ground was broken at Sacramento. In the later months of 1862, surveys had been pushed by several parties in the mountains. In December, Charles Crocker was given a contract for grading the first 31 miles to Newcastle, subcontractors taking short sections of the line.

In another report, dated June 1, 1863, Judah, as chief engineer, further described in detail some of the engineering problems. Again, in July, he made what was to be his last report to the directors. In addition to the account of the surveys, there was an estimate of the cost of the first 50 miles. He explained why the Sacramento Valley Railroad could not be incorporated in the new line – it was not in the proper location, being eight miles longer to Auburn; the Government bill applied only to a new road; the older road was heavily bonded and hence the Government bonds would not be available; the worn rails of English make would have to be replaced with American iron and much repair work would be necessary; and finally it did not command the possible traffic from the northern section of the state. The decision was correct, but much criticism was directed against Judah by the owners of the older road, who wanted to sell out.

Meanwhile, differences of opinion had developed between Judah and the men who were directing the affairs of the company – Stanford, Huntington, Hopkins, and Crocker. Most of the other directors had dropped out. Judah became impatient, and expressed himself in a letter dated May 13, 1863, to his friend Strong:

“I cannot tell you in the brief space of a letter all that is going on, or of all that has taken place; suffice to say that I have had a pretty hard row to hoe ... I had a blow-out two weeks ago and freed my mind, so much so that I looked for instant decapitation. I called things by their right name and invited war, but my hands are tied, however. We have no meeting of the board nowadays, except the regular monthly meeting, which, however, was not had this month; but there have been any quantity of private conferences to which I have not been invited.”

Judah maintained that his stock subscription had been paid for by his previous services but Hopkins ruled otherwise. Huntington returned from the East and evidently was an influence that Judah resented; he objected to the exclusive contracts being given to Crocker and in a letter declared that he had prevented a certain gentleman, probably meaning Crocker, from being a contractor on the road. The directors had themselves organized the Dutch Flat and Donner Lake wagon road, which was intended to bring the railroad much-needed revenue from the Washoe mines. However, it was not a railroad wagon road but one belonging to the four directors, and the revenues, if any, were to be theirs and not the railroad's.

This was but one of many sources of differences between Judah and his friends on one hand and the four directors on the other. Judah was an engineer and wanted to get on with building the railroad. The four directors had before them the problem of financing the road and meeting the continuous attacks made on their enterprise by antagonistic interests. For them there was no use in going on with the construction unless they could control the venture and assure themselves of a substantial profit.

The nature of the men involved in the controversy was an element that made for discord. Judah was a strong, persistent, and emphatic character. The railroad project was his own, one that he had developed and brought to realization; to have others take charge was a thing he could hardly understand. On the other had he was dealing with four men equally strong minded who intended to dominate the enterprise if it was carried out. A clash was almost inevitable; it came to a head in the summer of 1863.

While the details are lacking, the result was that Judah was bought out for the sum of \$100,000, but at the same time he was given an option to buy out the four associates for an equal amount each. They evidently were in doubt as to the possibilities for profit and were willing to get out for the sum named. They were all merchants and not railroad builders and at that time the Government help, from the nature of the law, was of little or no benefit. Judah decided to go East, and he left in September.

There is evidence that Judah had arranged to meet certain parties in New York and Mrs. Judah later stated that they were the Vanderbilt group, then in control of the New York Central Railroad. He sailed from San Francisco early in October 1863. at the Isthmus he contracted Panama fever, and on November 2, a few days after he reached New York, he died. He was buried at Greenfield, MA, his wife's girlhood home.

Thus, before he was 38, ended the remarkable career of a man to whom must be given the credit of originating a practicable plan for the Pacific Railroad of California, of selecting a general location of the line, and of organizing a company to prosecute the work. On his death, the enemies of the railroad endeavored to besmirch his character; and none more so that one of the former promoters of the Sacramento Valley Railroad and of a paper project to the Virginia City mines. Pamphlets were written and distributed and the officials of the Central Pacific answered. These pamphlets are of interest now, not with respect to the railroad as built, but as indicating the type of men Judah had to fight – men who would not stop at vilifying even the dead in the hope of defeating the project for which he gave his life.

Must criticism has been directed at the officers of the railroad company for consigning the memory of Judah to oblivion. The board did pass a resolution, "That the death of Mr. Judah, in the prime of his manhood and the full career of his usefulness, will be felt far beyond the immediate circle of his acquaintance. His ability as an engineer, his untiring energy of character, and the success with which he followed his profession, place him among those whose lives are a benefit to the state, and in whose death the public experiences an undoubted calamity." In answer

to some of the slanders, President Leland Stanford declared that Judah remained the chief engineer up to the time of his death. It is worthy to note in this connection that in 1862 a testimonial to Judah signed by 35 members of the House and 17 Senators recited his services in assisting the passage of the bill through Congress and especially in preparing the accurate and detailed information he had supplied.

It was but natural that poor Mrs. Judah should see only the part that her dead husband had played and should voice some feeling against the men of the railroad company. In justice to them, however, it must be said that there was nothing they could do. Naming a station or locomotive after the dead engineer would have been futile. It is inevitable that the memory of even exceptional men must pass away, for the living are but little concerned with the dead. However, more than sixty years afterwards, when the new station was built at Sacramento, employees of the engineering and maintenance departments of the company, led by W. H. Kirkbride, M. ASCE, chief engineer, subscribed the money for, and erected on the station grounds, a monument to the first chief engineer of the road.

That Judah was a man of exceptional ability will be apparent from the record of his signal achievements. What would have been developed out of his disagreement with the "Big Four" and the proposed financing by Eastern men must remain forever in the realm of conjecture. Judah was not the character to occupy a subordinate position and accept the dictates of other men. His friends were warm in their praise of his character and of his work. The slanders of the time were inspired by motives unconnected with the character of the man and they have long since died away.

Outstanding was his clear insight into the proper location of the railroad over a mountain chain far more lofty and rugged than any previously surmounted by a railroad. He analyzed clearly the pros and cons of the chosen route and of other possible routes. While others were talking of a railroad to the state line, Judah saw that the road must be transcontinental. William Hood, who came as a young man to the service of the Central Pacific in 1867 and was for many years chief engineer of the Central and Southern Pacific Railroads, asserted that "were there now no railroad over the Sierra, the Donner Lake route would still be selected over all others as the best possible."

For the more than seventy years that have passed since its completion, traffic of central California and the West has been carried over the Central Pacific. In spite of the fact that eight other transcontinental railroads have been built, the central route retains its preeminence. The railroad was built on the route selected by Judah. That is his monument; none better could be devised for any man.

Those interested in further study may well consult the admirable "Sketch of the Life of Theodore D. Judah" by Carl I. Wheat, in the *Quarterly* of the California Historical Society, September 1925; also the "History of the Southern Pacific Railroad" by Eric Heath and Lindsay Campbell, in the *Southern Pacific Bulletin*, 1926. The writer has freely drawn on these and on the reports that Judah made from time to time. Material is also found in the works of the historians, Theodore Hittell and Hubert Howe Bancroft.

*About the author*

John D. Galloway, Hon.M.ASCE, was a consulting civil engineer working out of San Francisco for most of his career, and was a Charter Member of the San Francisco Section ASCE when it was founded in 1905. Galloway's first job after graduating from Rose Polytechnic Univ. in 1889 was working as a design and construction engineer for the Fairhaven and Southern Railroad in the State of Washington. It was taken over by the Great Northern Railroad around 1891 and Galloway returned to work in the SF Bay Area where he grew up. He and his wife attended ASCE's National Convention held in Sacramento in 1930, when the monument to Theodore Judah was dedicated. The Sacramento Section's 1976 Historic Civil Engineering Landmarks booklet mentions some of his bridge and hydropower projects. Galloway is the author of a book *The First Transcontinental Railroad* published in 1950. Galloway's older daughter did much of the work to get the book finished and published after the death of her father in 1943.

*Contributed by Dick Wiltshire, US Bureau of Reclamation (ret'd), great-grandson of John D. Galloway*

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**Kennedy, David N.**

Between 1983 and 1998 Kennedy served as the director of California's Department of Water Resources. During that time, he faced three major floods as well as a prolonged drought. In his work on the California State Water Project, he improved the pumping capacity in the Delta shared by the Sacramento and San Joaquin Rivers, and promoted efforts to safeguard the area's environment.

Kennedy was born in 1935 in Ontario, Oregon. He earned a bachelor's degree in civil engineering in 1959, and a master's degree, also in civil engineering, from the University of California at Berkeley in 1962. Honored by the university as a distinguished alumnus in 1997, he was elected to the National Academy of Engineering in 1998. After retiring, he accepted an invitation to speak in Japan on the California State Water Project, which in 2001 was named one of the most outstanding engineering achievements of the 20th century by ASCE. Kennedy was also a member of ASCE's External Review Panel, which peer-reviewed the work of the U.S. Army Corps of Engineers' Interagency Performance Evaluation Task Force – the body commissioned by the Corps to assess the performance of the hurricane protection system in New Orleans and southeastern Louisiana during and after Hurricane Katrina. *Source: [www.dot.ca.gov](http://www.dot.ca.gov)*

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**Mitchell, Stewart**

Stewart Mitchell, principal bridge engineer, retired from the Bridge Department, Division of Highways, on March 31, 1955, after 31 years' service.

Stewart was born in Belfast, Ireland, on March 24, 1885, and came to the United States when he was four years old. He lived first in Wisconsin, where his father taught at St. John's Military

Academy, and later in Indianapolis, Indiana, where he attended school. He graduated from Purdue University in 1908 with a B.S. degree in Civil Engineering.

During the next nine years he worked successively for the Union Pacific Railroad in Denver, the Southern Alberta Land Company in Canada, and the United States Interstate Commerce Commission in Chattanooga, Tennessee. In 1916 he married Florence Kidd of Roseburg, Oregon.

During World War I he served as a captain with the 306<sup>th</sup> Engineers and spent a year overseas, taking part in the Meuse-Argonne offensive. He was one of the delegates chosen to represent the 81<sup>st</sup> Division in Paris in 1919, at the initial meeting at which the American Legion was created and organized.

After leaving military service he went to work as a resident engineer for the Oregon State Highway Department. Subsequently he came to California to accept a position with the Division of Highways in 1924, first serving as resident engineer on the Klamath River Bridge in Del Norte County.

In 1927 he came to Headquarters Office in Sacramento where he served continuously until his retirement, first as bridge maintenance engineer, then successively as bridge construction engineer, engineer in charge of bridge planning and design and engineer in charge of special investigations.

Mitchell is a past president of the Sacramento Section of the American Society of Civil Engineers [1947] and past national chairman of the Structural Division of the Society's Executive Committee. He is also a member of the American Concrete Institute, International Association for Bridge and Structural Engineers, and the honorary engineering fraternity, Tau Beta Pi.

His hobbies are golf, photography, and early California history. Perhaps his chief hobby is California history. He is one of the recognized authorities on California immigrant trails, and has published several authoritative articles on this subject. He did research work and wrote the topographic section of the recently published book, "Alonzo Delano's California Correspondence." He is a member of the California Historical Society. With his many hobbies and interests, Stewart says he will have no trouble keeping busy after leaving state service.

*Source: California Highways and Public Works, V34, March-April 1955, p48*

Funeral services will be held tomorrow for Stewart Mitchell, 82, a 44-year resident of the Capital City and principal bridge engineer for the State Division of Highways before his retirement. Mitchell, a native of Belfast, Ireland, died Friday [12 Jan 1968] in his home.

For eight years prior to his retirement in 1955 he was the principal bridge construction engineer with the State Division of Highways. He worked for the highway department for 31 years.

A student of history, Mitchell was a charter member of the Sacramento County Historical Society and was affiliated with the California Historical Society. He was a past member of the City Landmarks Commission and was a charter member of the Sacramento Book Collectors Club.

He was a past president of the Sacramento Section of the American Society of Civil Engineers, and was a member of numerous other engineering societies, including Tau Beta Pi, an honorary engineering fraternity.

He is survived by a son, A. Stewart Mitchell of Sacramento, and Robert K. Mitchell of Sierra Madre, Los Angeles County; a sister, Mrs. J. T. McDermott of Indianapolis, IN, and three grandchildren.

*Source: unidentified newspaper clipping, Caltrans archives, 15 Jan 1968*

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### **Panhorst, Frederick W.**

At its annual meeting in New York January 14 and 15 [1946] the American Society of Civil Engineers elected Frederick W. Panhorst, Bridge Engineer of the California Division of Highways, a director of the society. Mr. Panhorst was elected an associate member in 1923 and member in 1933. For the last three years he has been chairman of the local membership committee for this area. In 1944 he was elected to the executive committee of the structural division; on which western representation has been rare. Mr. Panhorst is Past President of the Sacramento Section of the society.

Born in Andrain County, Missouri, Mr. Panhorst graduated from the University of Illinois in 1915, where he received his B.S. in civil engineering and later his C.E. degree. His early experiences included land surveying, mine surveying, construction of railroad bridges and mill building design. Two years after graduation from college, he came west as a naval architect for the Puget Sound Navy Yard in Bremerton. Later he returned to the M. K. & T. R. R. as an assistant bridge engineer. In 1920 he went to Anaconda, Montana, where he designed several complete copper smelting plants for the Anaconda Copper Company for construction in South American. From 1921 to 1927 he was in charge of construction of several large bridges for the State of Washington.

Mr. Panhorst came to California in 1927 as Construction Engineer for the Bridge Department of the Division of Highways. In 1931 he was appointed Acting Bridge Engineer and has been Principal Bridge Engineer since 1936. He is an active member of the Structural Engineering Association of Northern California.

*Source: California Highways and Public Works, V23, Jan-Feb 1946, p15*

Frederick W. Panhorst, the State's Chief Bridge Engineer for the past 29 years, retired April 1 after a long career in public service, most of it with the California Division of Highways.

Panhorst was Assistant State Highway Engineer – Bridges and headed the division's extensive Bridge Department, which handles about \$140,000,000 in structure work annually.

During his 33 years with the Division of Highways, Panhorst saw the division grow from a staff of 115 to nearly 1,000. During the same period the allocations for bridge construction also grew, starting at \$3,250,000 and culminating in today's \$140,000,000. Panhorst saw his own

responsibilities grow rapidly with the increase in the need for more and better bridges for the State of California.

Before joining the Division of Highways he had worked as an engineer in such areas as naval architecture, plant design and railroad bridge construction. Three years after joining the Division of Highways he was promoted to the position of Acting Bridge Engineer, replacing Charles F. Andrew who had been assigned to the San Francisco – Oakland Bay Bridge project. In 1936 Panhorst became permanent Bridge Engineer and in 1947 he attained the civil service rating of Assistant State Highway Engineer – Bridges.

During his 29 years as department head, Panhorst was responsible for the planning, design, construction and maintenance of what he modestly refers to as “maybe \$1 billion” in bridge and tunnel projects, including hundreds of separation and interchange structures for the State’s expanding network of freeways. Such complex structures as the parallel Carquinez Bridge on US 40, the Webster Street Tube in Oakland, the Benecia-Martinez Bridge and all of the State’s elevated freeway structures were planned and undertaken during Panhorst’s tenure as Assistant State Highway Engineer – Bridges.

Work is soon to be started on yet another major bridge project, plans for which were prepared under Panhorst’s supervision. This structure, the San Pedro – Terminal Island Bridge at Los Angeles Harbor, will be Southern California’s first state toll bridge. Panhorst was also responsible for the operation and maintenance of the San Francisco – Oakland Bay Bridge as well as the other state-owned toll bridges in the San Francisco Bay area.

Born in Mexico, Missouri, Panhorst attended grade and high schools in Staunton, Illinois. He received his bachelor of engineering degree in 1915 and his professional degree in 1916 from the University of Illinois.

Panhorst is a past national director of the American Society of Civil Engineers and a former president of the Sacramento section of that organization. He is a member of the Structural Engineers Association, the American Concrete Institute, the American Association of State Highway Officials, the American Roadbuilders Association, and the American Toll Bridge and Turnpike Association.

In recognition of his years of faithful and outstanding service to the State of California, House Resolution No. 75 was read and adopted unanimously by the Legislature on March 9, 1960. The resolution cited Panhorst for faithfully and energetically rendering outstanding public service to the people of the State and to all users of California’s many highways and bridges.

*Source: California Highways and Public Works, V39, Mar-Apr 1960, p70*

Frederick W. Panhorst, who served as the Division of Highways Bridge Engineer for 29 years, was found dead in his home on May 22, 1974. He was 81.

When “Pan,” as he was known to friends and associates, was named acting Bridge Engineer in 1931, the Bridge Department staff numbered about 115 persons and bridge construction accounted for some \$3-1/4 million a year. At the time of his retirement in April



1960, the Bridge Department had grown to nearly 1,000 persons handling \$140 million in structure work annually.

Born in Mexico, Missouri in 1893, Panhorst attended grade and high schools in Staunton, Illinois. He received his Bachelor of Engineering Degree in 1915 and his Professional Degree in 1936 from the University of Illinois.

Prior to coming to the Division of Highways as a construction engineer of bridges in 1927, Panhorst had varying bridge engineering experience with several other organizations.

Panhorst was named Acting Bridge Engineer in 1931 when Charles Andrew, the Bridge Engineer, was called upon to head up engineering for the Bay Bridge. Panhorst's appointment became permanent in 1936.

During his 29 years as Department head, Panhorst was responsible for the planning, design, construction, and maintenance of what he modestly referred to as "maybe \$1 billion" in bridge and tunnel projects, including hundreds of separation and interchange structures for the State's expanding network of freeways. Panhorst saw his own responsibilities grow rapidly with the increase in the need for more and better bridges for the State of California.

Some of the major and prize-winning structures completed under Panhorst's direction include:

Bixby Creek – 1932

Russian Gulch – 1940

Klamath River at Orleans – 1940

Pit River at Shasta Lake – 1941

Noyo River – 1948

Four Level Structure – 1949

Arroyo Seco Arch – 1953

Parallel Carquinez Bridge – 1958

East Los Angeles Interchange – 1960

All of the State's then elevated freeway structures were planned and undertaken during Panhorst's tenure as Assistant State Highway Engineer – Bridges.

Panhorst was also responsible for the operation and maintenance of the San Francisco-Oakland Bay Bridge as well as the other State-owned toll bridges in the San Francisco Bay area.

Panhorst was a past National Director of the American Society of Civil Engineers, and a former President of the Sacramento Section of that organization. He was a member of the Structural Engineers Association, the American Concrete Institute, the American Association of State Highway Officials, the American Roadbuilders Association, and the American Toll Bridge and Turnpike Association.

Panhorst was Chief of the Bridge Section of the California Division of Highways from 1931 to 1960. Fred Panhorst was President of Sacramento Section in 1939.

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### **Pope, Charles S.**

Charles Stockton Pope, Construction Engineer of the Division of Highways since 1923, passed away on March 16, 1938, at Riverside, while on an inspection trip of recent storm damage to highways in southern California.

Mr. Pope was born on August 10, 1874, at Fort Stockton, Texas, the son of Dr. Benjamin F. Pope, a distinguished surgeon in the U.S. Army. He received his early education at Army schools, private and public schools, graduation from Stanford University with an A.B. in C.E. in 1897. While at Stanford, he was a member of the Chi Psi fraternity, varsity track team in 1896 and 1897, and was elected perpetual class president in his senior year.

Mr. Pope began his professional career in 1898, on land and irrigation surveys in Kern County. In 1900 and 1901 he was assistant engineer on power projects for the Standard Electric Co., continuing similar work in 1902 and 1903 for the North Shore Railroad and Stanislaus Water and Power Co. During 1904 to 1906 he was engaged as surveyor for the King of Arizona Mine, and in private practice at Los Angeles. In 1907 he entered the engineering department of the City of Los Angeles where he was principally engaged as highway engineer in charge of paving work until the year 1915. From 1916 to 1921 he was associated with Warren Brothers as district engineer on promotion and consulting work for asphalt pavement projects in California and Nevada.

In January, 1922, he began his service with the California Highway Commission as Assistant Engineer, specializing on asphalt pavement work. In September, 1923, when the Construction Department was organized, Mr. Pope was appointed head of this department as Construction Engineer in charge of the Materials and Research Laboratory and of all highway construction, except major bridges. The laboratory assignment was terminated in 1928 when the Materials and Research Department was organized. As Construction Engineer, Mr. Pope also had charge of the State Prison Camps, involving supervision of the construction of many miles of heavy mountain roads and of problems concerning the rehabilitation of prisoners.

To his keen, analytical mind and his constant interest in research can be attributed many of the improved methods of construction of our highways. His continued effort and study are primarily responsible for the development of the modern high type asphalt concrete pavement as now constructed by the State. His numerous technical and scientific papers, articles, and discussions contributed materially to the knowledge of highway engineering and are widely recognized as authoritative.

He was an active member of the American Society of Civil Engineers, serving as president of the Sacramento Section in 1924 and on numerous committees. He was also a member of Sacramento Lodge No. 40, Free and Accepted Masons, the Sutter Club, San Francisco Engineer's Club, California Museum Association, and a former member of the Sutter Tennis Club and the Del Paso Country Club.

*Source: California Highways and Public Works, Vol 16, Apr 1938, p28*

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**Stanton, Thomas E.**

On My 31, 1951, Thomas E. Stanton, Materials and Research Engineer of the Division of Highways, reached the age of 70 and therefore automatically became an heir to the benefits and privileges of the State Retirement System for the creation of which he himself was largely responsible. Mr. Stanton was in state service for more than 39 years, his name first appearing on

the pay roll of the California Highway Commission on April 1, 1912, at which date he was appointed Assistant Division Engineer, Division VI, with headquarters in Fresno.

In 1912 the California Highway Department was in its infancy and the initial work was being planned and organized. Prior to that time Stanton had served as Assistant Engineer in the City Engineer's Office in Los Angeles for a period of seven years, and after entering the employ of the State he served successively as Assistant Division Engineer, then as Assistant State Highway Engineer, and finally, Materials and Research Engineer from 1928 until his retirement at the end of May 1951.

Tom Stanton was the first native son of a pioneer family and the third by the name of Thomas Elwood Stanton. His grandfather, Thomas Elwood Stanton, the first of the name, had crossed the plains to California during the gold rush in 1849. Having left a wife and eight children at home, he soon became homesick and returned to Indiana, where he spent the next eight years trying to persuade the entire family to move to California, which was finally accomplished in 1859, after a sojourn in the northeastern part of Iowa, where Thomas Elwood Stanton the second was born, near Frankville on April 2, 1854. After the usual hardships attendant upon the long trip across the plains by wagon train, the family finally settled in Santa Barbara, in the area now known as Miramar.

Thomas Stanton the second moved to Los Angeles where he became one of the leading photographers of the era, having studios in the Temple and Downey Blocks at Main and Temple Streets. It was there that Thomas Elwood the third was born on Temple Street between Spring and Broadway on May 31, 1881, the centennial year of the city. Tom grew up in Los Angeles, attended grammar schools and later graduated from the St. Vincent's College in 1899 with the degree of A.B. He then attended the University of California at Berkeley entering in 1899 with the class of 1903. Because it was necessary to work during a portion of his college years, he did not graduate until 1904, receiving a B.S. degree in mining.

Having no immediate opportunity to follow mining as a profession and having passed a civil service examination as instrument man in the City Engineer's Office in Los Angeles, he went to work for the City in 1905. After seven years with the Los Angeles City Engineer's Office, during which he served successively as instrument man, chief of party and as assistant engineer in charge of sewer and paving design and construction, he was lured away by the rosy prospects offered by J. B. Woodson, the new Division Engineer of the California Division of Highways, who offered him an increase of \$5 per month if he would accept the position of Principal Assistant Division Engineer with the headquarters in Fresno. Thus the first pay roll shows that he received a salary of \$150 per month in April of 1912.

Tom once stated that during the time when he was Assistant Division Engineer in Fresno he made it a point to be as well informed on the details of headquarters operations as anyone actually in the department at Sacramento. It may be suspected that this fact was responsible for his appointment in 1914 to the position of Principal Assistant Division Engineer in Sacramento. In 1920 he was made Assistant Highway Engineer in charge of general inspection throughout the southerly portion of the State. In 1921, when the Department of Public Works was formed, Mr. Stanton was appointed Assistant State Highway Engineer, in which capacity he served under

State Highway Engineers Austin B. Fletcher, Robert M. Morton and Charles H. Purcell until his appointment as Materials and Research Engineer in 1928, which position he occupied for the succeeding 23 years until his retirement on May 31, 1951.

In the earlier years of the Division of Highways, a great many interesting and often colorful experiences were the lot of the pioneering engineers. Ruts and chuckholes were synonymous with roads in those days, and pavements were virtually unheard of outside the limits of incorporated cities. The sums of money available for highway construction and improvement were small indeed compared to modern standards, and everyone in the organization was very close to the problem which often meant being intimately mixed with the mud and dust of the rural roads.

The records show that a seminar of department heads was held in Sacramento May 26<sup>th</sup> and 27<sup>th</sup> in 1914, and among the various papers presented was one on accounting by Mr. J. H. Small, Chief Accountant. Mr. Stanton was selected to discuss the paper, and his comments on the organization of the District office work carry the following rather illuminating paragraph: "A variety of such forms makes it possible for one employee who is both clerk and stenographer to handle *all of the clerical work of the division office.*" Times have indeed changed.

The pioneering urge was obviously strong in the Stanton family, and it appears that Tom inherited a full measure of the energy and initiative that led his namesake to move to California in the days of '49. Thomas Elwood the third has continued to pioneer, and the catalog of his activities represents an intensive and impressive list. It is indeed difficult to sum up in any brief or simple phraseology the impressions and far reaching effects produced throughout the lifetime of an energetic and capable man devoted to his work and to the public interest.

In addition to the other honors for notable contributions he was awarded the Wason Medal in 1934 and the Norman Medal in 1943, both for outstanding work on Portland cement concrete.

While many research projects have been conducted in the Materials and Research Department which have attracted attention in engineering organizations through the United States and in foreign countries around the world, he is probably best known for work on the durability of Portland cement concrete, and among the various aspects of the durability problem. Mr. Stanton was the first to discover that one of the most marked forms of deterioration in Portland cement concrete was attributable to an internal reaction between constituents in the cement and in the aggregate. In other words, certain brands of Portland cement may contain small percentages of alkalis which cause no trouble unless the sand used contains certain minerals such as opal or similar forms of silica which will react with the alkalis in the cement.

In addition to professional activities, much of which were devoted to the committees having to do with retirement benefits, membership qualifications and professional conduct, Tom was also a member of the Committee on Salaries for the American Society of Civil Engineers, and his interest in the welfare of civil engineers and public employees in general is illustrated by his activities in community affairs such as the Red Cross, Community Chest, Boy Scouts, etc., and most noteworthy of all, of course, are his outstanding efforts and achievements in organizing the State Employees' Association and supervising the development and form of the Employees'

Retirement System through its early days, until it became firmly fixed in the State law of California in a manner that renders it free from political manipulation or unfavorable influence.

Those who have had occasion to observe Tom in action during employee meetings or those other groups have often been impressed by his ability to direct the activities and especially his capacity to introduce a strong element of sanity and common sense on those occasions when ill-advised or unsound moves have been proposed. It is not difficult for a man in a position of authority to control and direct the organization that must look to him for guidance. It does require a much higher type of ability to guide the actions and procedures of a group in a democratic meeting where many suggestions are inevitably made without considering the long range effects of or all of the implications.

In addition to his many contributions toward the security and welfare of his fellow-employees, Tom Stanton has also established in the minds of those who have known him and worked with him a reputation for personal integrity that is equaled by few, and quoting one of his subordinates who worked in close contact with him for nearly 20 years, "Mr. Stanton is the most honest man whom I have ever known."

*Source: California Highways and Public Works, V30, May-Jun 1951, p8*

Thomas E. Stanton, former Division of Highways employee, died at his home in Belvedere on April 30. He was 81.

A man widely known in engineering circles, Stanton served as Materials and Research Engineer for 23 years prior to his retirement in 1951.

During his professional career, Stanton was an active member of virtually all American technical societies. He was a director of the American Society of Civil Engineers, 1937-39, and vice president in 1942-43. He served on the Board of Directors of the American Concrete Institute in 1943-44 and was elected an honorary member in 1955. Together with other honors for notable contribution, he was awarded the Wason Medal by the American Concrete Institute in 1934, and the Norman Medal by the American Society of Civil Engineers in 1943, both for outstanding work in Portland cement concrete, especially for the discovery of the alkali-aggregate reaction.

He was one of the leaders in organizing the California State Employees' Retirement System and served as the system's first president.

Stanton was born in Los Angeles where he grew up and attended school. His higher education was obtained at Saint Vincent's College from which he was graduated in 1899 with an A.B. degree. He then attended the University of California at Berkeley where he received a B.S. degree in mining.

He was with the Los Angeles City Engineer's office for seven years. He started his career with the State Division of Highways in 1912. Stanton was appointed in 1914 to the position of principal assistant division engineer in Sacramento. In 1920 he was made assistant highway engineer in charge of general inspection throughout the southern portion of the State. In 1921,

when the Department of Public Works was formed, Stanton was appointed assistant state highway engineer in which capacity he served until his appointment as materials and research engineer in 1928. He held this position for the succeeding 23 years until his retirement in 1951.

Following his retirement in 1951 he piloted the formation of a local Olive Growers Association and became its first president in 1951. While serving as the association's president, Mr. Stanton also served concurrently as president of the board of directors until 1958. He also was active in the Rotary Club, the Del Paso County Club, and the Sutter Club.

He is survived by his son, Thomas E. Stanton, Jr., of Belvedere, and two daughters, Mrs. Henry F. Zacharias of Sacramento and Mrs. John F. Madden of Tuburon, as well as six grandchildren and one great-grandchild. He is also survived by a brother, Joseph E. Stanton, of Pasadena, and two sisters, Anna Stanton of Los Angeles and Mary Megan of Wilmington.

*Source: California Highways and Public Works, V41, May-Jun 1962, p61*

[Thomas E. Stanton was President of Sacramento Section in 1930, when Sacramento Section hosted the ASCE National Annual Conference.]

## BACKGROUND DATA FOR AWARD-WINNER BIOGRAPHIES

In alphabetical order

### **Alden, Donald W. (1921-2010)**

Donald Wayne Alden, "Dee" to his family and "Don" to his many friends, passed away on June 14, 2010 after a short illness. He led a life filled with achievements in his family life, in the engineering profession, and in the sporting world as a champion rower. He leaves behind his wife, Dorothy; brother and sister-in-law, John and Agnes Alden; son and daughter-in-law, Dave and Kathleen Alden; daughter and son-in-law, Nancy and Everette Acheson; and a host of nieces and nephews who enjoyed and respected their "Uncle Dee".

Born in Los Angeles on November 19, 1921 to Lloyd and Harriett (Spear) Alden, Don lived a life filled with the opportunities available in California. When his father died shortly after Don's birth, his mother moved with Don and his older brother John into her parents' home in Hollywood, where for eight years the two boys were embraced by their extended Spear family. They played on the streets of Hollywood early in the era of cinema; Saturday games of hide-and-seek were on the set of the "Our Gang" comedies.

In 1929, Don's mother entered into a partnership with her brother to manage a drugstore and soda fountain in the San Gabriel Valley community of Puente. Don and John spent the remainder of their formative years surrounded by the caring environment of a small town. Don delighted in telling how his mischief was always relayed to his mother at the soda foundation before he could return with an alibi.

After high school, Don entered the University of California, but his years in Berkeley were interrupted by [World War II](#). He served first on an advance survey crew for the Alaskan Highway, acquiring a lifelong aversion to snow. His work in Alaska complete, he became a meteorologist for the U.S. [Army](#) Air Corps, which gave him a love of flying that led to a post-war general aviation license.

Following the war, he returned to Cal to finish his degree in Civil Engineering. He also returned to the Cal crew, with whom he had rowed before the war. When his studies began to interfere with practice, he asked the coach if he should leave the team. The coach asked him if he loved rowing. When Don said that he did, the coach told him that he was welcome at practice whenever his schedule permitted. It was a hint of a passion that would enrich his final years.

After Cal, Don joined the Bridge Department of the California Division of Highways (later CalTrans), where he spent the next 37 years. During his years at CalTrans, he was involved in the design, specifications, and construction oversight for bridges throughout the state starting with the ground-breaking four-level structure in Los Angeles and concluding with his post-retirement return to review the qualifications of the Bay Bridge Replacement contractor. More importantly, he and Dorothy made friendships that lasted a lifetime. The most enduring friendships were with the Westons and Garretts, with whom they celebrated New Years Eve for more than fifty years.

In 1951, Don married Dorothy (Deane), who was also from Puente, and began a marriage that lasted more than 59 years. Their marriage was blessed with two children, Dave in 1953 and Nancy in 1955. Both children remained close throughout his life and were at his side in his final days.

After his retirement from CalTrans, Don remained professionally active, first as an independent bridge historian and later as a project manager and specifications writer for Roy Imbsen and Associates. As his years increased, he often considered full retirement, but was always coaxed back by the inducement of "just one more project."

Don returned to rowing in the mid-1980s. He joined the fledgling Masters Program of the Lake Natoma Rowing Association. As he shook off decades of rust, he found that he was highly competitive for his age group. With his fellow rowers at Lake Natoma, he competed and often won up and down the West Coast from San Diego to the Northwest. He was asked to join a national elite team, the Golden Eight, which competed and won internationally. Don and Dorothy's retirement travels were often arranged around international regattas in places such as Cologne, Seville, and Adelaide. He finished his rowing career with gold medals from all those locations and more. He made friends throughout the world with whom he shared a love of the power and grace of competitive rowing. In his final years, LNRA honored him for his years of service and mentoring by placing his name on their newest eight-person shell and on the trophy awarded at their annual Gold Rush Regatta. *Source: Sacramento Bee, June 20, 2010*

Donald Wayne Alden, a veteran Caltrans engineer who became a world champion rower in retirement, died June 14 of heart failure, his family said. He was 88.

Mr. Alden spent 37 years writing specifications and designing bridges for the California Department of Transportation. He moved his family often as a field engineer on Southern California projects before settling in Sacramento in 1967. He retired in 1984.

He had joined the state Division of Highways upon graduating from UC Berkeley, where he was on a crew team coached by Olympic gold medalist Ky Ebright. Almost 40 years later, after seeing rowers compete at the 1984 Los Angeles Olympics, he signed up for the Lake Natoma Rowing Association's masters program.

"All the time I was growing up, I don't think he mentioned rowing once," said his son, Dave. "But he just fell in love with the power and grace in gliding on a little piece of wood in the water."

Mr. Alden established himself as a top masters rower. He won West Coast contests with Lake Natoma rowers and was invited to join the Golden Eight, an elite national team.

He traveled and won at international regattas, including races in Germany, Spain and Australia. He competed as an octogenarian to win the 2002 CRASH-B World Indoor Rowing Championships in Boston.



He won a total of 10 world championships and more than 70 medals. He raced until a few years ago and rowed as recently as six weeks before his death. The Lake Natoma Rowing Association named its eight-person shell and Gold Rush Regatta trophy for him.

"He was always looked up to on the team," Lake Natoma rower Dave Worthington said. "People who row out there hope they can row and compete as long as he did."

Mr. Alden was born in 1921 in Los Angeles. His father died shortly after he was born, and his mother and her family reared him and his brother.

A top high school athlete, he was invited by Ebright to join the Cal rowing team in 1940. He left after his first year to serve as an Army Air Corps meteorologist during World War II. He returned to rowing at UC Berkeley but focused mostly on earning an engineering degree in 1947.

He married Dorothy Deane in 1951 and had two children. After retiring at Caltrans, he spent several years consulting and writing environmental assessments of county bridges.

He was active in community efforts to protect Lake Natoma from development. An amateur winemaker, he grew grapes at his Carmichael home and bottled a few dozen bottles each year for friends.

Mr. Alden extolled the joys of rowing, including the thrill he felt as the shell jumped forward each time his oar first hit the water. He stayed fit by training four days a week.

"The great thing about rowing," he said in 2003, "is that if you do this every day, you can have ice cream every night."

Survived by: Wife, Dorothy of Carmichael; son, Dave of Petaluma; daughter, Nancy Acheson of Chico; and brother, John of Oakland. *Source: The Sacramento Bee, Jun. 26, 2010*

### **Bardet, Josh**

Josh is currently in his third year at UC Davis studying civil engineering with a strong interest in transportation. He enjoys being an active student on campus and within the Davis community. He is currently on the board of directors for UC Davis's annual open house, Picnic Day, and a proud member of the UC Davis Student Chapter of ASCE. On the side, you can find Josh driving Davis's red Unitrans buses, hanging out with friends or running and biking around town. *Source: Sacramento Section ASCE 2011*

### **Bassett, John**

John Bassett is the Director of Engineering for the Sacramento Area Flood Control Agency. John is a leader in Water Resources and Construction Management and he has successfully managed SAFCA's construction projects since 1993. *Source: The Engineerogram, Oct 2009*

### **Baumgardner, Samuel**

Samuel is an undergraduate in the Civil Engineering field, has passed the EIT exam and is currently the VP and Steel Bridge Head Captain of his Student Chapter. His primary focus is in bridge and steel design. Samuel intends to further his education and receive a Ph.D. Samuel also serves his school by leading a review program to prepare students for the EIT. *Source: The Engineerogram, Mar 2010*

### **Biscocho, Caldean**

Caldean has interests in transportation and environmental engineering. He also has a desire to use this experience to help develop infrastructures in other countries. He is proud to be studying Civil Engineering and likes to state that “Giving back to my community is always a goal.” *Source: The Engineerogram, Mar 2010*

Caldean is a 4<sup>th</sup> year undergraduate student at UC Davis. He is currently Co-President of the UC Davis ASCE Student Chapter, alongside Rosa Aguilar. He intends to continue his association with ASCE well after graduation from college. He plans to pursue a master’s degree in Transportation and Environmental Engineering. Beyond that, he hopes for the chance to serve the less fortunate using his Civil Engineering experience to their benefit. *Capital Branch Lunch Announcement, May 2010*

“As a student of Civil Engineering, I have found myself most interested in the people around me. I am inspired by the selflessness of my colleagues. I’ve learned, from personal experience, that Civil Engineers often have an inherent urge to serve others. Seeing this attribute in classmates has prompted me to involve myself in outreach programs, like that found in the Student Recruitment and Retention Center (SRRC) on the UC Davis Campus. Additionally, as the UC Davis ASCE President, I was able to advise underclassmen by drawing examples from my own hardships. I hope to further immerse myself in such service, improving our environment, while always bearing in mind the well being of people.” *Submitted by C.B. on August 13, 2010*

### **Bizjak, Tony**

Tony Bizjak currently covers transportation news for the Sacramento Bee and sacbee.com. He has worked for the Bee since 1990 and previously covered Sacramento City Hall. Before that, he worked for the San Francisco Chronicle, Sacramento Union, and Lodi News-Sentinel. He is a San Jose State University graduate. He is married, with two children and lives in east Sacramento. *Source: M. A. Farber, personal files, 2008-09*

### **Blackburn, Tom**

Tom Blackburn is the co-founder and president of Blackburn Consulting Inc. (BCI). Tom has over 25 years of experience in Geotechnical Engineering and as a proactive, results oriented professional, Tom provides overall direction for BCI. His leadership is reflected in BCI being named one of the Best Civil Engineering Firms to work for, two years in a row. Tom also serves the profession well as the State President of ACEC - California (formally CELSOC). *Source: The Engineerogram, Oct 2009*

### **Brown, Kimberly I. [Schmidt]**

Kimberly Brown has been involved with ASCE since 2002 at the student level and 2006 at the Section Level. Brown served as Social Director, Conference Chair, and President of her ASCE student chapter. After graduation, she served the YMF as Newsletter Editor, Secretary, Vice President, President, and Executive Director. At this writing, she has been nominated for the office of Junior Director. *Source: The Engineerogram, Aug 2010*

Kimberly Brown graduated from Cal Poly, SLO with a BS in Civil Engineering in 2005 and a MS in Civil & Environmental Engineering in 2007. Brown has worked in the geotechnical engineering field since 2006 and currently works for HDR, Inc. in Folsom. She has been involved with ASCE since she was a student at Cal Poly, and eventually serving as a YMF officer since moving to Sacramento in 2006. She is currently the Executive Director of the Sacramento Section YMF and a Committee on Younger Members representative for Region 9. In addition, Brown serves on the Golze scholarship committee for the Sacramento Section and has judged the concrete canoe competition at Mid-Pac. *Submitted by KIB on Aug 13, 2010*

### **Buer, Stein**

Stein Buer is the Executive Director of the Sacramento Area Flood Control Agency. His leadership in providing flood protection for the thousands of residents of Sacramento is just one of many contributions made to our community and our profession. *Source: The Engineerogram, Oct 2009*

### **Cabacungan, Brylle**

Brylle Cabacungan (or B.J.) is a civil engineering student at the University of the Pacific. Brylle was born in Olongapo City, Philippines on March 23, 1991, sandwiched between two sisters. His family and he moved to the United States when he was two years old. Brylle grew up in San Diego and graduated from University City High School in 2009. In his spare time he enjoys competing in all sports, playing puzzle games, and exploring new places. He decided to major in civil engineering because his dad did the same when he was in college and Brylle dreams of building big.

### **Calderone, Natalie E.**

Sacramento Section Secretary since 2004. Led initiative to update our Section web site, set up electronic registration capabilities for all Section activities, and is currently converting our member database to electronic software which will allow us to manage it more efficiently. Attended 2007 & 2009 Workshop for ASCE Section and Branch Leaders – Regions 8 & 9. Publicity Chair for Orthotropic Bridge Conference 2004, Conference Chair and Treasurer for Orthotropic Bridge Conference 2008. Involved in development of Infrastructure Report Card for both Sacramento Region (as Committee Chair) and California State (as Committee Member). As a college student, involved in Steel Bridge Competition both regionally and nationally. *Source: Calderone candidate statement, 2008*

Natalie has been one of the hardest working and most dedicated officers for ASCE for a long time, especially this past year, as she spearheaded the efforts to move our Section into a more sustainable, more organized, and more effective organization. Her efforts to completely re-vamp our Section website, and institute the new online registration system for all of our events have already paid dividends. And while she was doing all of that, she stepped up to the plate to help lead the successful Orthotropic Bridge Conference [2008], no small task. *Source: Speaker's Agenda, ASCE Sacramento Section - Officer Installation and Awards Dinner, September 17, 2009*

### **Cann, Cody**

Cody is a Junior Civil Engineering major at University of Reno, Nevada. A graduate of Fallon High Cody started college as a business major. After two years of college Cody was hired by a Nevada Department of Transportation Consulting firm. While working in construction Cody decided he wanted to become a Civil Engineer. He enrolled in the UNR College of Engineering in the spring of 2007. Cody's future in Construction is for a full career then a dream to teach Engineering students construction at the college level. *Source: Sacramento Section Chapter, Construction Institute, 2009*

### **Chapman (a.k.a. O'Hara), Kristy**

Kristy currently works as a geotechnical engineer with Blackburn Consulting. Kristy came on board as a Younger Member Group officer and immediately made an impact to the organization. Her energy and dedication in planning events and bringing our group together, including her tremendous efforts in supporting the PE review courses and countless other activities made our group stand out. Now she takes on even more responsibility as the new chair of the Geo-Institute, and I know will long serve our profession well. *Source: Speaker's Agenda, ASCE Sacramento Section - Officer Installation and Awards Dinner, September 17, 2009*

### **Cloutier, Dan**

Dan Cloutier is currently serving as Student Chapter President and is following in the footsteps of Josh [Wagner] where he continues building a strong foundation at Sacramento State ASCE. His leadership has been recognized by many within his department and by the ASCE Region. Many in the Section's leadership look forward to having Dan join the professional ranks upon his graduation. *Source: The Engineerogram, Oct 2009*

### **Cohen, Ilana**

Ilana Cohen is currently an environmental scientist and planner with CDM. She graduated from Brandies University, in Waltham Massachusetts with degrees in biology and environmental studies. Her previous endeavors include coastal ecology research in Tanzania and Zanzibar, and work with the Union of Concerned Scientists. She has greatly enjoyed serving as the president of the EWB Sacramento Valley Professional chapter and is deeply honored to accept the Joseph W. Gross Award for humanitarian service from the Sacramento Section of ASCE. As the president of EWB, Ms. Cohen has worked to build the membership of the chapter, to further existing

chapter projects, and to adopt new chapter projects. In addition to her role as the president, Ms. Cohen also serves as the co-project manager for The Oaks Irrigation Project in Limpopo South Africa, and joined her team on an assessment trip to the community in May 2009. Currently Ms. Cohen is working with other Sacramento Valley Professionals to plan the EWB West Coast Regional Workshop. Outside of her office and EWB meetings, Ms. Cohen is often found running or biking on the American River Trail, or on the hills of Auburn. *Source: M. A. Farber, personal files, 2008-09*

### **Copelan, Craig**

Craig Copelan has served the Sacramento Section with distinction as its President, is currently the Section's Chair for the Committee on Law and Legislation, and is a member of the Nominating Committee. Craig regularly contributes to the Engineer-o-gram and is a supporter of Engineers Without Borders (EWB). He has made outstanding contributions to the T&DI; namely the start up of the highly successful monthly brown bag series. *Source: The Engineerogram, Oct 2009*

### **Copelan, Joyce**

Joyce Copelan has also had the distinction of serving the Sacramento Section as its President. Currently she is the Section's Chair for the SEI committee, a member of the Budget Committee, and the Section's Executive Director. Her tireless efforts on such programs as Engineer's Day at the Mall, Bay Bridge boat tours, and applications for SPAG grant funding make her quite deserving of this [Panhorst] award. *Source: The Engineerogram, Oct 2009*

Joyce Copelan has over 25 years of experience as a licensed Civil Engineer and has served ASCE for over 30 years. Currently, within the Caltrans Office of Structure Maintenance and Investigations, she provides support to the Departments Bridge Maintenance Inspection program, making field visits to structures on the state and local highway system to determine their adequacy to carry traffic, providing engineering solutions to repair structures that have deteriorated due to the rigors of age or due to events of a catastrophic nature. Joyce has a Master of Science degree in Civil Engineering from the California State University Sacramento as well as additional technical degrees from UC Davis and CSU Sacramento.

Ms. Copelan has also served within a variety of professional organizations during her career including: Past President of the Sacramento Section of the American Society of Civil Engineers, Past President of the Sacramento Section of Professional Engineers in California Government, member of the Seismology Committee and Public Relations Chair of the Structural Engineers Association of Central California. She has a strong sense of social justice and works hard to encourage those who may not traditionally consider a career in engineering to give the field a try as well as using her skills to benefit those whom have not had the advantages that have been available to her. She is an accomplished musician, plays a variety of string instruments, her principal instrument is the violin, has performed as a soloist, played in various orchestras within California and internationally. She and her husband Craig live on their family property west of Winters California. *Source: Sacramento Section ASCE 2011*

### **Costa, Ray**

Mr. Costa received his BS degree in civil engineering from UC Davis. He is a California registered civil and geotechnical engineer. He has spent the majority of his 34 year career with Kleinfelder in northern California. He also managed Kleinfelder's Saudi Arabia for a two year assignment. He has worked on many area projects including mid- and highrise buildings and parking structures in Sacramento (Hyatt Regency, Holiday Inn, Riverview Plaza, and K Street Mall), SMUD transmission lines, Regional San wastewater interceptors, and 10 California State Prisons. For the past 15 years, he has worked almost exclusively on flood control projects - primarily levees. He has worked on almost every flood district levee in the Sacramento River flood control system.

Mr. Costa retired from Kleinfelder in 2007 after 30 years. He continues to consult on a part time basis for Kleinfelder, the California Department of Water Resources, and several levee districts.

His non-work interests include golf, skiing, and biking. He currently lives in Granite Bay with his wife Marian. His 3 daughters all live in the area.

### **Countryman, Joseph D.**

Joseph Countryman graduated from CSU, San Jose, with a BS in Civil Engineering in 1966 and is a registered Civil Engineer in California and Nevada. He has had a long career working with MBK Engineers and the US Army Corps of Engineers. During his time with these two entities, Joseph was involved in the fields of hydrology, hydraulics, flood control, water supply, and water resources development. The projects he has worked on span the length of California and he has worked many dams and levees in our great state. *Source: The Engineerogram, Sept. 2010*

### **Creedon, Pamela**

Pamela Creedon is the Executive Officer of the Central Valley Water Quality Control Board. She is a licensed Civil Engineer and a Board Certified Environmental Engineer with over 29 years of professional experience, developing and implementing water quality regulatory programs. She serves on the ASCE National Energy, Environment and Water Policy Committee, chairs the CSUS Environmental and Water Resources Advisory Committee, and serves on the Board of Directors of the Sacramento Section Chapter of the Environmental & Water Resources Institute (SSEWRI). *Source: The Engineerogram, Oct 2009*

**Pamela C. Creedon** is the Executive Officer of the Central Valley Water Quality Control Board. She is a licensed Civil Engineer and a Board Certified Environmental Engineer with over 29 years of professional experience, including over 17 years of experience in both the public and private sector developing and implementing water quality regulatory programs. She holds a Bachelor of Science and Master of Science in Civil Engineering from California State University, Sacramento. She is a member of the American Society of Civil Engineers, the American Academy of Environmental Engineers and Tau Beta Pi. She serves on the American Society of Civil Engineers National Energy, Environment and Water Policy Committee, is Chair of the CSU Sacramento Environmental and Water Resources Advisory Committee, is on the Board of Directors of the Sacramento Chapter of the Environmental & Water Resources Institute

(SCEWRI) of the American Society of Civil Engineers and the Board of Directors for the San Francisco Estuary Institute Aquatic Science Center. *Source: Central Valley Water Quality Control Board website, [www.waterboards.ca.gov/centralvalley/](http://www.waterboards.ca.gov/centralvalley/)*

### **Crockett, Heather**

Heather is a 2009 Construction Management graduate from California State University, Chico. She is currently employed by the US Army Corps of Engineers. Heather contributes to contract administration on the Folsom Dam Auxiliary Spillway, Joint Federal Project as well as performs daily jobsite inspections for quality and safety. Heather is a CMIT member of CMAA and the current Chair for the ASCE/CI Student Days Event.

### **Cummings, Shane**

Shane Cummings has had the honor of serving as the President of the Feather River Branch for the past two terms from 2008 to 2009 and from 2009 to 2010. Shane has a Bachelor of Science degree in Geology from the California State University of Chico and is the operations manager for the Chico office of Holdrege & Kull Consulting Engineers and Geologist. Shane is responsible for business development, operations, and project management and performs and oversees field investigations for geotechnical and material testing projects, geologic hazards evaluations, environmental investigations, environmental site assessments, and remediation of contaminated sites. His work includes geotechnical engineering and geologic hazards evaluation investigations, analyses, and report preparation for public school and hospital sites, public works projects, water reservoir development, wastewater treatment, residential/commercial developments, groundwater and soil remediation of federal projects, and oversees quality assurance testing, observation, and special inspection of construction projects. Shane is a licensed Professional Geologist, Certified Hydrogeologist, and Certified Engineering Geologist with the state of California. He also serves as a Subject Matter Expert for the California Board of Professional Engineers and Land Surveyors assisting with the geology division in preparing material for the Professional Geologist, exam, Certified Hydrogeologist exam, and Certified Engineering Geologist exam, and technical expert review and options on enforcement cases. Shane is married to Heidi Cummings, also consulting geologists, and they have a 17 month old daughter. *Source: Submitted by SC on August 17, 2010*

### **Dalrymple, Steve**

Steve Dalrymple has been actively involved in water resource engineering for over 44 years since graduating from U.C. Berkeley in June 1967. Following graduation, he began his career working for Alameda County Zone 7 in Hayward, California. In 1974, he moved to Sacramento where he worked for Development & Resources Corporation, CH2M Hill and Kennedy Jenks before joining West Yost Associates in 1992. He is the current President of West Yost Associates. Steve is a Life Member of ASCE having joined in 1975. As an active member of the Sacramento Section, he has served on several committees and as President in 1993-94. He lives in Sacramento and has been married to Gerry for 45 years. They have three grown children and 6 grandchildren.

During his career he has completed numerous master planning assignments for water, stormwater, and wastewater systems and facilities. Steve's water system engineering experience includes master planning, water demand projections, water supply evaluations and development, system evaluation, and system analysis modeling. He has also designed numerous water system facilities including treatment plant modifications, storage tanks, pumping facilities, wells, and pipelines, and has provided engineering support services during construction on these projects. His experience also includes specialized expertise in the planning and design of drainage facilities. His specialty has been in developing city wide master plans and has authored and overseen the preparation of master plans for numerous cities and districts throughout northern California including the cities of Sacramento, Roseville, West Sacramento, Folsom, Napa, Manteca, Vacaville, and Dixon, Squaw Valley Public Services District, San Juan Water District, Fair Oaks Water District and Vallejo Sanitation and Flood Control District.

### **Davis, Jaimie**

Jaimie Davis graduated from Sacramento State this past June (after the 2011 Mid-Pacific Student Conference) and is currently working for Dokken Engineering. Jaimie joined the committee from the get go and quickly took on the responsibility of managing the conference's finances as well as helping in any way that she could (she quickly also took on all of the conference's incident events like lunch and supported all of the other committee team members in their respective areas). Her actions in helping plan things and being a major proponent in the conference's execution are largely what made the conference a success. In addition to this, she also planned and successfully hosted a crab feed fundraiser which ultimately kept the conference in the black. These accomplishments are not the only things to her credit. In the years before the conference, Jaimie served as an officer for the ASCE Student Chapter at Sacramento State. As an officer, Jaimie took on the task of Professional Coordinate in which she coordinated speakers to speak for the Student Chapter. In each role, Jaimie has done a fantastic job. Jaimie has passed the EIT/FE exam.

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### **Do, Thanh**

Thanh is a sophomore majoring in Civil Engineering and he currently serves as student chapter Event/Meeting Coordinator. This year, he initiated and is the project manager of the Steel Bridge Competition team. Upon graduation, Thanh plans to continue his education with interest in Structures and Materials in Construction. *Source: The Engineerogram, Mar 2010*

### **Evans, Noreen**

[State] Senator Evans represents the 2nd Senatorial District which includes Humboldt, Mendocino, Lake, Sonoma, Napa and Solano. She is a member of several committees including: Agriculture, Budget, Governmental Organization and Natural Resources and Water. Prior to serving the 2<sup>nd</sup> District, Senator Evans served in the State Assembly from 2004 to 2010. *Source: Sacramento Section ASCE 2011*

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### **England, Shauna**

Shauna is a Senior Civil Engineering major at CSU, Chico. Shauna has a solid educational base to build on, practical work experience, and extra curricular activities that reflect her own passion



and interests. Shauna has given back to the community and is involved in national technical competitions. Both have given her fond memories and a sense of accomplishment. Shauna completed three-summer internships learning a variety of diverse technical and people skills. Shauna summarizes her college experience as “fulfilling, challenging, and worthwhile.” Shauna believes her future in construction will lead her to becoming an expert and in the forefront of the construction industry. *Source: Sacramento Section Chapter, Construction Institute, 2009*

Shauna graduated in May 2010 from California State University, Chico with a Bachelor of Science Degree in Civil Engineering. Shauna currently works for the U.S. Army Corps of Engineers where she is working on the Folsom Dam Auxiliary Spillway located in Folsom, California. This joint Federal Project involves coordinating with the Bureau of Reclamation to update Folsom Dam to withstand a 200 year storm event. By constructing this additional control structure and spillway an estimated 600,000 people occupying homes and towns downstream of Folsom Dam will be protected during such an event.

Shauna is also involved with the American Society of Civil Engineers (ASCE), specifically the Construction Institute (CI). Shauna will help to organize and coordinate the 2011 Student Days Conference held in Sacramento, California. Shauna was awarded the 2010 ASCE Outstanding Younger member award which she is honored, grateful, and thankful for as she hopes to live up to the success of previous Civil Engineers in her field. During her free time Shauna likes to road bike and cook. *Source: Larry Smith, Aug 2010*

Shauna graduated in May 2010 from California State University, Chico with a Bachelor of Science Degree in Civil Engineering. Shauna currently works for the U.S. Army Corps of Engineers where she is working on the Folsom Dam Auxiliary Spillway located in Folsom, California. This joint Federal Project involves coordinating with the Bureau of Reclamation to update Folsom Dam to withstand a 200-year storm event. By constructing this additional control structure and spillway an estimated 600,000 people occupying homes and towns downstream of Folsom Dam will be protected during such an event.

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### **Farber, Martin A.**

Martin Farber retired in 2008 after 36 years in Civil Engineering, specializing in irrigation, drainage, and flood control. Born in Ohio in 1951, his career path took him to Illinois, Minnesota, Colorado, Indiana, Bangladesh, Guyana, Egypt, Oklahoma, Arizona, and California. Martin is the founder and first president of the Sacramento Valley Professional Chapter of Engineers Without Borders, and was ASCE Sacramento Section President in 2007-08. He and

his wife Millie were married in 1981, and have two grown children. Martin enjoys outdoor activities, particularly swimming and hiking. *Source: M. A. Farber, personal files, 2008-09*

### **Fell, Ben**

Ben Fell joined Sacramento State in Fall 2008 after completing his PhD at the University of California, Davis. Prior to that he received his MS from Stanford University and BS from Rensselaer Polytechnic Institute where he graduated with highest honors. Dr. Fell's research concentration is on the behavior of steel structures under seismic effects. His course offerings include structural analysis, structural dynamics and the design of steel structures. Dr. Fell is a registered Professional Engineer in California, a member of the SEAOC steel subcommittee, and an advisor to Sacramento State's ASCE and SEAOC student chapters. He holds elected seats on the University Faculty Senate and the Senate Curriculum Committee, as well as serving as the Vice-Chair on the College of Engineering Academic Council. Since joining Sacramento State's faculty, Dr. Fell has published 15 journal or conference publications on topics including fatigue and fracture of steel braces, bridge abutment behavior in seismic regions, and K-12 outreach activities.

### **Ghelfi, Pete**

Pete Ghelfi has been the Director of Engineering for SAFCA since 2000. He has been involved in numerous flood control projects that have led to increased flood protection to the Sacramento area. Most of the projects require coordination with the Corps of Engineers, State Department of Water Resources/California Central Valley Flood Protection Board staff, and resource agencies. Projects worked on include slurry wall construction along the Sacramento and American Rivers, various levee repair projects, underseepage remediation, erosion protection, improvements to Folsom Dam, levee certifications along the American River, Sacramento River and South Sacramento Streams, and the re-mapping of over 82,000 parcels out of the regulatory floodplain.

Prior to working for SAFCA, Mr. Ghelfi worked for Sacramento County Department of Water Resources for approximately 12 years where he was involved in numerous programs that included drainage development review, master planning, storm water quality, the FEMA program, the Community Rating System program, and initiated a Hazard Mitigation Grant Program involving the purchase of homes along Dry Creek and the elevation of houses above the floodplain throughout the County.

### **Grant, Caroline**

Caroline is a sophomore studying Civil Engineering and currently serves as the Student Chapter VP, a Secretary for SWE and SWE Region A Conference Program Director. She has interests in specializing in water management and is a member of her school's Steel Bridge Team. Caroline has also acted as a researcher on wetlands as a form of wastewater treatment with Dr. Camarillo. *Source: The Engineerogram, Mar 2010*

Caroline Grant is currently a senior in Civil Engineering at the University of the Pacific. She has been and continues to be an active member of Pacific's ASCE student chapter. During the 2009-

10 academic year she served as Vice President and as a Co-Captain of Pacific's Steel Bridge Team. She has been elected to serve as President of Pacific's ASCE student chapter and will continue as Co-Captain of the Steel Bridge Team during the 2010-11 academic year.

In addition to her roles in ASCE, Caroline is also an active member and officer of the collegiate section of the Society of Women Engineers (SWE). She has served as secretary and was the program director of the 2010 SWE Region A Golden West Conference. She is currently preparing for the SWE National Student Competition in Florida where her team will present a project in "developing a collaborative learning center" in partnership with Cisco Systems.

Caroline also makes time for the community and the environment. As Co-Captain of San Joaquin County's California Coastal Cleanup Day for the Calaveras River at the University of the Pacific, she will be coordinating with the county and leading volunteers in the clean-up efforts.

She has also been recognized for her academic success as part of the Honors Program and Dean's List. She is a past recipient of ASCE Sacramento Section's Golze Scholarship. She has also participated in undergraduate research activities dealing with life cycle analysis of wastewater filters.

After her graduation in 2012, Caroline plans to continue her education and pursue a Masters Degree in Civil Engineering. *Source: Submitted by C.G. on August 13, 2010*

### **Grant, William**

Will is a senior and has served his student chapter as President (twice), VP and Treasurer. He has been a student advisor for the incoming engineering students and has served as staff for the Haybourne Leadership Academy. William is looking forward to graduation, and plans on attending Grad school. *Source: The Engineerogram, Mar 2010*

### **Grosjean (a.k.a. Nurmi), Francesca**

### **Harden, David**

David Harden is a senior at CSU Sacramento. He transferred to Sac State for Civil Engineering in the spring of 2010, were on the first day he found himself in the ASCE student chapter lounge asking, "how do I get involved." In the summer of 2010 he began an internship at Bennett Engineering and where he continues to work. Over the last year David has also pass the EIT Exam and maintain a 3.9 GPA.

He has been involved in all the ASCE student competition teams for the past two years and was Captain of the 2010-2011 ASCE Water Treatment Team. As Captain he planned a Water treatment Boot-camp, a day to educate fellow students about water treatment. He led the design team for the ASCE Mid-Pacific Regional Conference Water Treatment competition. The team competed in the Water Environmental Federation's National Wastewater Challenge where they placed 10<sup>th</sup> overall nationally. At both the regional and national conferences the team took 1<sup>st</sup> place for best design report. *Source: Sacramento Section ASCE, 2011*

## **Harder, Leslie**

Dr. Harder is currently a Senior Water Resources Technical Advisor and Senior Professional Associate with HDR. He received his Bachelor's and Master's degrees in Civil Engineering from U. C. Davis, and obtained his Doctoral degree in Geotechnical Engineering from U. C. Berkeley in 1988. His doctoral dissertation was on the use of penetration testing for the prediction of liquefaction potential of coarse-grained soils.

Dr. Harder has over 30 years of experience in the design and construction of earth structures. For most of this time, he worked for the California Department of Water Resources. While with the Department, he served as Division Chief for both the Division of Flood Management and the Division of Engineering, and later served as Deputy Director for Public Safety. In this latter assignment, Dr. Harder collaborated in the writing of the Proposition 1E bond measure and in landmark flood legislation passed by the legislature and signed into law in 2007.

Dr. Harder has also served on numerous post-earthquake reconnaissance investigations and was heavily involved with the emergency response to California's 1997-1998 floods. He was also involved with the four emergency construction contracts associated with repairing Jones Tract and he has served on several joint State-Federal committees on levee seepage design criteria, including the Sacramento District's 2003 Levee Seepage Task Force. More recently, Dr. Harder was part of a National Science Foundation team sent to New Orleans to examine the performance of levees following Hurricane's Katrina and Rita. He has also served on reconnaissance investigations of the performance of levees following the 2008 Midwest Flood and the 2008 Hurricane Gustav events. In 2008, Dr. Harder was appointed to the National Committee on Levee Safety by the Assistant Secretary of the Army. *Source: Sacramento Section ASCE 2011*

## **Hegedus, Pal**

Pal Hegedus has received the Sacramento Section's David N. Kennedy Award for achievement in the field of Water Resources Engineering in 2007-08. In 2008, he organized and chaired the Sacramento Section's chapter of the Environmental and Water Resources Institute (EWRI), bringing together engineers, environmental scientists and regulatory specialists from the public and private sectors to discuss critical issues related to water and the environment. A Vice President with RBF Consulting in Sacramento, he leads RBF's Northern California Water Resources Department. Named a Diplomat of Water Resources Engineering by the American Academy of Water Resources Engineers (AAWRE), he is also currently serving and Vice Chair of the Floodplain Management Association (FMA), and in 2006 was selected as "FMA Floodplain Manager of the Year." *Source: The Engineerogram, Oct 2008*

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## **Henry, Ryan**

Ryan is a senior Construction Management major at CSU, Sacramento. Ryan is also studying business administration. Ryan participated in the Associated Schools of Construction Student Competition for two years as a member of the Heavy Civil Construction Division. Ryan completed several summer internships taking on complicated tasks and becoming a problem

solver. Ryan believes his future in construction lies in his own hands. *Source: Sacramento Section Chapter, Construction Institute, 2009*

### **Herbert, Jeremy**

Jeremy Herbert has been an active member of ASCE at Sacramento State serving as Webmaster, Vice-President and the Chair of the Mid-Pacific Student Conference Planning Committee. Jeremy is looking forward to his graduation this December, where he will enter the professional ranks with the experience gained from his years as an officer in ASCE, as well as an internship of two years with Dokken Engineering. When Jeremy isn't excelling at school and work, he is spending his time with his family of four. *Source: Sacramento Section ASCE 2011*

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Jeremy Herbert is an intern working for Dokken Engineering. When the Student Chapter of ASCE at Sacramento State (SSASCE) first learned that it was next in line to host the ASCE Mid-Pacific Student Conference, Jeremy Herbert was the first to volunteer to lead the effort. Jeremy has been a member and officer in the SSASCE for the past few years and in that time, Jeremy has served the chapter in a number of different ways. In 2009, he stepped up as the chapter's webmaster and in 2010 he was elected to the position of Vice President. Jeremy has served his chapter well as a representative to the University, fellow university organizations and as a part of the chapter's monthly meetings; many times leading these meetings. This past year, Jeremy took on the herculean task of serving as the Hosting Committee Chair. In this position, Jeremy assembled a great team of current undergrad students, a few graduate students and even an alumnus and faculty as advisors. Jeremy's team took on the task by dividing the tasks into definable, manageable pieces and having his staff take ownership for that part of the competition. He had these team members become the experts in their areas and held regular meetings to promote communication and keep everyone on the same page. He took part in the project's budget and schedule efforts and with the help from some of his advisers setup a schedule for the project team to host the conference and then a schedule and budget for the conference to achieve its objectives. The conference was a tremendous success and saw more than 500 attendees. This year's conference also introduced two new competitions; one in the area of Geotechnical Engineering and the other in Transportation. The conference attendees loved these new events. The conference operated on a budget of just over \$39,000 and has remained in the black. Attendees were very happy with the turnout of the conference. On the day of the event, Jeremy had a project team that was ready to go and performed admirably. Jeremy is now preparing to graduate this next semester but still busy closing out the finances and transitioning the conference materials to next year's host: UC Berkeley. Although it took a lot of hard work and determination, Jeremy perseverance paid off and the conference was a success. In addition to this success, Jeremy has passed the EIT/FE exam and is currently working for Dokken Engineering in Folsom. Despite, having the responsibilities of working for a private firm, Jeremy found a way to balance his work life, home life and still host the 2011 conference and even complete his homework.

### **Imbsen, Dr. Roy A.**

As President of Imbsen & Associates, Inc. Dr. Roy Imbsen leads a team of very qualified and dedicated bridge engineers involved in design, seismic retrofitting, research, code development, computer program development, construction engineering and inspection, and physical testing

and rehabilitation. Dr. Imbsen has been a Principal Investigator on many bridge related research projects sponsored by National Science Foundation, Transportation Research Board (National Cooperative Highway Research Program), Federal Highway Administration and others.

Dr. Imbsen has been a pioneer in developing, implementing, teaching, and applying seismic design principles to bridges since the San Fernando earthquake in 1971. As a participant in current activities related to seismic design of bridges, Dr. Imbsen presently serves on several committees and boards involved in the development and testing of new design procedures.

*Source: Federal Highway Administration website: [www.fhwa.gov](http://www.fhwa.gov)*

Dr. Roy Imbsen has 47 years of experience as a practicing bridge engineer. His experience includes design, analysis, research and construction of transportation facilities. More recently, he is working with OSMOS USA to implement procedures for structural health-monitoring of highway bridges. Dr. Imbsen has completed a project for AASHTO entitled Recommended LRFD Guideline Specifications for the Seismic Design of Highway Bridges, which was adopted by AASHTO in 2007. Additionally, he is advising Computers & Structures, Inc. (CSI) on how to enhance their software to support bridge engineers in the application of the new LRFD seismic design guidelines.

As President of Imbsen & Associates, Inc. (IAI), he led a team of bridge and highway engineers for 25 years. Dr. Imbsen's experience covers a broad range of projects within the United States and several other countries. He is a registered Professional Engineer in 18 states and is the Engineer of Record on several major transportation facilities. Additionally, Dr. Imbsen has been Principal Investigator on many bridge related research projects (sponsored by NSF, FHWA, AASHTO, NHI, SCDOT and Caltrans) covering bridge rating, wheel load distribution, thermal effects in concrete, computer program development for analysis and design and writing new design specifications.

Dr. Imbsen has been a pioneer in developing, implementing, teaching and applying seismic design principles to bridges since the San Fernando earthquake in 1971. He was a co-recipient of the AASHTO Dr. L.I. Hewes Award for the development of the first comprehensive seismic design specifications, which remained in effect for fifteen years. He has directed and participated in the seismic upgrading of several major bridges including the Golden Gate Bridge, Benicia-Martinez Bridge, George Washington Bridge, I-40 Mississippi River Bridge in Memphis, Tennessee, Tobin Memorial Bridge.

Dr. Imbsen developed the first FHWA Training Manual for Seismic Design of Highway Bridges in 1976, which has been updated several times. He is the Lead Instructor for the one-week FHWA Workshop designed to educate industry professionals to implement the latest technology for seismic design and retrofitting. Dr. Imbsen has given this workshop over 100 times throughout the United States and in several foreign countries. *Source: Multidisciplinary Center for Earthquake Engineering Research (MCEER) website: <http://mceer.buffalo.edu>*

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**Kho, Eddie**

Eddie Kho is President and CEO of Morton & Pitalo, Inc., and a Fellow in ASCE. In addition to his outstanding success, first as a civil engineer, and then as a leader in business, Eddie Kho has helped to improve engineering education in our community, through his work with the Advisory Committee to the College of Engineering at CSUS. He also serves on the Board of his alumni chapter; he supports student activities such as the ASCE concrete canoe competition and NSBE; and he assisted in the research process that hired the Dean of Engineering at CSUS. He is also a state director and a scholarship foundation trustee with the Consulting Engineers and Land Surveyors of California (CELSOC). *Source: Speaker's Agenda, ASCE Sacramento Section - Officer Installation and Awards Dinner, September 17, 2009*

### **Kincaid, Elizabeth**

Elizabeth is Senior Civil Engineering major at U.C. Berkeley. A native of Los Angeles, Elizabeth preferred to stay in-state to attend college. She is involved in numerous Civil Engineering clubs on campus including ASCE and the Cal Construction Team. Elizabeth completed several internships, helping her gain design and work experience. Elizabeth is a frequent visitor to the Cal Woman's Volleyball games where she loves to cheer the Bears to victory. Elizabeth feels her future in construction will lead her to a Master's Degree and to be able to contribute in the heavy civil arena. *Source: Sacramento Section Chapter, Construction Institute, 2009*

### **Konieczki, Mike**

Mr. Konieczki has been a member of the Sacramento YMF since moving to California just over 4 years ago, and an officer with the group for almost as long. In October, he will begin his 3rd term as YMF treasurer. Currently, he works for David Ford Consulting Engineers, Inc as a hydrologic and hydraulic engineer. Prior to this he earned an MSE from the University of Texas, and a BSE from the University of Michigan. He is an avid bowler and home brewer and enjoys an occasional round of golf. *Source: Sacramento Section ASCE 2011*

### **Langelier, Andrew**

Andrew is currently a senior at CSU, Chico and is studying civil engineering with honors. He has served his student chapter as Treasurer and currently as chair for the 2010 Mid-Pacific Conference. He has interests in Water Resources Engineering and pursuing his doctorate.

*Source: The Engineerogram, Mar 2010*

### **Larsen, Thor**

Mr. Larsen has been active as an Officer in the American Society of Civil Engineer since 2005. He has worked as Treasurer, Junior Director and Senior Director for the Section. He led the effort and was very instrumental to begin increasing attendance and project submittals for the annual project of the year awards in 2007 and beyond. He currently is serving as President of Capital Branch.

Thor's civil engineering career began in 1982 after graduation from Montana State University. He has worked primarily in construction engineering for large transportation projects with

specialty in highway bridges. Notable projects in which he was Bridge Resident Engineer with Caltrans include the Santa Barbara Crosstown Freeway on State Route 101( which won the FHWA award in 1991 for the State Street Undercrossing), the Gap Closure in Fresno in which 22 bridges were completed in a 24 month period, and the 24/680 interchange in Walnut Creek.

He current works for the El Dorado County DOT and enjoys the family atmosphere of the county.

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### **Lee, Dr. G. Fred**

Dr. Lee has been a full-time consultant through the firm of G. Fred Lee & Associates since 1989 when he moved to El Macero (near Sacramento). This firm specializes in evaluating and managing the impacts of chemicals on water quality, advanced level water supply water quality, water and waste water treatment, water pollution control, and solid and hazardous waste investigation and management. Dr. Lee has established a website, [www.gfredlee.com](http://www.gfredlee.com), where he has make available over 600 papers and reports developed from his research and consulting activities.

Dr. G. Fred Lee received his PhD degree in environmental engineering from Harvard University in 1960. For 30 years he taught university graduate-level environmental engineering courses and conducted research on water quality and solid waste management issues at several US universities, including the University of Wisconsin, Madison; University of Texas at Dallas; Colorado State University; and the New Jersey Institute of Technology (NJIT) where he held the position of Distinguished Professor. During that period he conducted over \$5 million in research and published over 500 papers and reports on his work. *Source: The Engineerogram, Feb 2007*

G. FRED LEE, Ph.D., P.E., BCEE, F.ASCE, earned his bachelor's degree from San Jose State College in 1955, Master of Science in Public Health from the University of North Carolina in 1957 and his PhD degree in environmental engineering from Harvard University in 1960. For 30 years he served on the graduate civil and environmental engineering/science faculty of several major US universities where he taught, conducted research, mentored the Masters and PhD work of 90 students, published extensively in professional journals, and actively undertook public service for the regulatory, professional, and lay communities.

In 1989 Dr. Lee retired from his academic career to focus on private consulting and public service; he is president of G. Fred Lee & Associates. Areas of emphasis include domestic water supply water quality focusing on how land use in a water supply watershed impacts water supply water quality; investigation and management of surface and groundwater quality, stormwater runoff, contaminated sediments, land surface activities that impact groundwater quality, and use of reclaimed wastewater; and investigation and management of impacts of solid and hazardous chemicals including MSW and hazardous waste landfills, Superfund, and other hazardous chemical sites.

Dr. Lee has published more than 1100 professional papers and reports many of which are posted on his website [[www.gfredlee.com](http://www.gfredlee.com)]. In addition, out of the need for greater influence of science and engineering in water quality regulation and management, he created and authors an email-



based Stormwater Runoff Water Quality Newsletter which he has distributed about monthly for the past 13 years, at no-cost, to about 8,400 subscribers.

In December 2009 Dr. G. Fred Lee was elected as an ASCE Fellow. This election recognizes Dr. Lee five decade career as a national/international leader university graduate level educator and environmental consultant. *Source: Submitted by GFL, August 2010*

### **Leonardo, Cassie D.**

Cassie Leonardo Smith was awarded the Construction Engineering Scholarship at the Fall 2008 Construction Institute/ASCE Conference in Burlingame, California. Since attending the conference, she has continued to be actively involved in the engineering community. Cassie was a member of ASCE, along with Chi Epsilon and Tau Beta Pi at California State University, Fresno. She received the ASCE Scholarship Award for Academic Achievement in Spring 2009, and the ASCE Outstanding Senior Project Presenter Award upon graduation in Fall 2009. Cassie obtained an internship at Blair, Church and Flynn Consulting Engineers in Clovis, California during her sophomore year of college. Upon passing her EIT exam, she was hired as a full-time Hydrology and Hydraulics Engineer during her senior year. She graduated Magna Cum Laude in three and a half years and married her college sweetheart and fellow civil engineer, Kevin Smith. Cassie plans to continue her involvement in ASCE after graduation as an associate member. Her participation in ASCE as a student had a significant impact on where she is today. She believes that the effort ASCE puts forth to motivate students to become successful engineers is irreplaceable. She recalls that her most interesting trip to the field as a student was the ASCE/Caltrans-organized San Francisco-Oakland Bay Bridge trip. She says, "It helped me to realize the magnitude of engineering projects, and the impact that I could have as a successful civil engineer." She recognizes and values the opportunity ASCE provides to network with experienced professionals, obtain advice, and job experience. ASCE provided a springboard for her to gain invaluable experience in the professional engineering world. *Source: The Engineerogram, Feb 2010*

### **Levine, Nathaniel**

Nathaniel Levine joined the Sacramento Bee's newsroom graphics department in 2003. He had previously worked for the Army Times, USA Weekend magazine, The Daily News of Los Angeles and The Davis Enterprise. In addition to the recognition he has received from ASCE, Levine's graphics for The Bee have been honored by the Associated Press, the California Newspaper Publishers Association and the Best of the West journalism contest. Levine is a Sacramento area native, having grown up in Grass Valley. He graduated from UC Davis in 1994 with degrees in English and history. *Source: M. A. Farber, personal files, 2008-09*

### **Mangus, Alfred R.**

Alfred R. Mangus has received the Sacramento Section's Arthur L. Elliott Award for achievement in the field of bridge engineering. Mangus served on the Sacramento Section Board of Directors in 2005-6 as Junior Director, and in 2006-7 as Senior Director. Mangus was the Chair of the 2007 James E. Roberts/ Prof. Ben C. Gerwick, Jr.

Memorial California Bridge Conference, and was instrumental to the organization and direction of the 2008 Orthotropic Bridge Conference, where he also presented two technical papers.

Mr. Mangus is currently a Transportation Engineer, Civil, with the Office of Structure Contract Management for the California Department of Transportation (CALTRANS). He has been with the department for 16+ years. His previous employers include the Arizona Department of Transportation and consulting engineering firms located in Anchorage, Alaska & Washington. He earned the Bachelor of Architectural Engineering degree from Penn State University in 1976, and the MSCE from the University of California, Berkeley in December 1977. Mr. Mangus is co-author of “Orthotropic Deck Bridges” Chapter 14 of Bridge Engineer Handbook published by CRC Press. He is also the author of “Timber Foundations” Chapter 11 of *Timber Engineer Handbook* published by McGraw Hill Book Company [1, 2, & 3rd Editions]. He is a licensed engineer in five western states.

In 1987 and again in 2000, he received Professional Awards from the James F. Lincoln Arc-Welding Foundation for innovative welding design solutions. He is on the Board of Directors of the HMS Heavy Movable Structures Inc. [Movable Bridges]. He is President of the Sacramento Section of the PECG = Professional Engineers In California Government. [Bargain Unit representing about 10% of PECG Members]. He has over 25 published conference proceedings and/or magazine articles on various civil engineering topics either as author or co-author.

Alfred had the vision to create [www.orthotropic-bridge.org](http://www.orthotropic-bridge.org) as President–Elect of the ASCE Capital Branch of Sacramento, which required the “yes votes” of fellow officers in 2002 from Ben Consolacion, Craig Copelan, Beverly Mason, Dick Weitzenberg, and Greg Zeiss. He also served as 2004 Chair of [www.orthotropicbridge.org](http://www.orthotropicbridge.org). Alfred also served on the ASCE Sacramento Section Board of Directors from Oct 2003- Sept 2007. *Source: The Engineerogram, Oct 2008*

### **Maroney, Brian**

Dr. Brian H. Maroney is a Civil PE registered in California. Dr. Maroney has over 25 years experience in Bridge Design, Earthquake Engineering, Construction and Project Management. He is employed by the California Department of Transportation and is currently the Principal Bridge Engineer and Deputy Toll Bridge Program Manager overseeing all aspects of the design for the entire Toll Bridge Program. He is also an Adjunct Professor in the Civil & Environmental Engineering Department at the University of California, Davis.

### **Matsui, Doris**

The flood management award this year should go to Honorable Congresswoman Doris Matsui. Even during this difficult political and economic times, she was able to push through legislation for the Sacramento flood control projects.

Congresswoman Doris Matsui proudly serves the 5th Congressional District which includes the City of Sacramento. Congresswoman Matsui has made increased flood protection a key focus of

her work in Congress, successfully advancing legislation to upgrade and modernize the region's levee, dam and water management systems. In conjunction with other flood control initiatives on both the Sacramento and American Rivers, Congresswoman Matsui is building an impressive record of collaboration and innovation to protect her district from harmful flooding, and making affordable flood insurance a reality for Sacramento homeowners. In Fiscal Year 2010, Congresswoman Matsui secured a record \$86.5 million dollars to improve the region's flood protection infrastructure. *Source: Sacramento Section ASCE 2011*

### **Meyer, Jeffrey II**

Jeff is a civil engineering major currently in his junior year with a desire to work in water resources or geotechnical engineering. Jeff serves as the co-captain of the Concrete Canoe Team. *Source: The Engineerogram, Mar 2010*

### **Miyamoto, Kit**

H. Kit Miyamoto, Ph.D., S.E., is the CEO and a structural engineer for Miyamoto International, Global Risk Miyamoto and a nonprofit organization, Miyamoto Global Disaster Relief. Under his leadership, more than 12,000 projects have been successfully completed worldwide. Known for innovative engineering, Dr. Miyamoto works on many challenging projects that receive industry recognition, including the Structural Engineers Association of California (SEAOC) Excellence in Structural Engineering Award. Dr. Miyamoto specializes in High-Performance Earthquake Engineering, as well as Disaster Mitigation, Response, and Reconstruction. Dr. Miyamoto works on major critical projects, including his role as an expert consultant to the World Bank on the seismic risk mitigation project for 2000 schools in Istanbul. He worked with the government of Haiti and the United Nations to conduct assessments on more than 400,000 earthquake-damaged structures. He is also working with the government of Haiti, the United Nations, the United States Agency for International Development, and various nongovernmental organizations to implement reconstruction strategies for Haiti.

A past director for SEAOC, Dr. Miyamoto is an American Society of Civil Engineers (ASCE) Fellow; and has served on many code writing organizations, including the ASCE 7 Seismic Task Committee. He was also an adjunct professor at California State University. Dr. Miyamoto holds graduate degrees from the Tokyo Institute of Technology and California State University, Sacramento. He was also awarded Distinguished Alumni by California State University, Chico. Dr. Miyamoto has published over 100 technical papers and is a frequent international media spokesperson on earthquake structural engineering issues.

### **Moose, Samantha**

Samantha has served her student chapter by organizing community outreach events and is currently the Chapter President. She hopes to pursue her Master's Degree or Ph.D. in the field of structural engineering. *Source: The Engineerogram, Mar 2010*

### **Ogren, Jesse**

Jesse Ogren is the incoming Fall 2010 President for Sacramento State University's ASCE. Jesse has served the chapter in the past as the Steel Bridge Captain in 2008 and 2009. He is currently working as a student intern with Parsons Brinckerhoff and will be graduating in spring 2011.

*Source: Submitted by JO in August 2010*

Jesse Ogren has been involved with ASCE for the past three years, and during that time he has served as Captain of the steel bridge team for two years. He is currently the President of the ASCE student chapter at Sacramento State. In addition to this, Jesse has been a member of SEAOC (Structural Engineers Association of Central California) for two years, and has participated in the past two wood truss design/build competitions, where his team won 1<sup>st</sup> place in both competitions. In May, 2011, Jesse will graduate from Sacramento State University with a Bachelor of Science Degree in Civil Engineering. He has been working in industry as an intern with Parsons Brinckerhoff for the past three years. As a professional, Jesse would like to continue serving his student chapter as an advisor. In this position, he would have the opportunity to advise students on internal student chapter matters and provide students with networking opportunities within the industry. *Source: Submitted by JO in August 2010*

### **Owaidat, Louay**

Louay Owaidat is the President and CEO of Magnus Pacific, a heavy Civil Construction Company. Louay is instrumental in leading his company to the successful completion of hundreds of flood protection projects in Northern California. Louay serves on the Board of Directors for the Sacramento Section of the Construction Institute. *Source: Speaker's Agenda, ASCE Sacramento Section - Officer Installation and Awards Dinner, September 17, 2009*

Mr. Owaidat is President and Chief Executive Officer of Magnus Pacific Corporation, a national environmental and geotechnical construction company with headquarters in Roseville, CA and offices in Denver, CO, and Dallas, TX. As President of Magnus Pacific, Mr. Owaidat oversees all aspects of the company including health & safety, quality assurance, operations, finance, administration, marketing, and business development. He also provides technical expertise to support the design, planning, and execution of Magnus Pacific's geotechnical construction and site remediation projects throughout the United States.

Mr. Owaidat holds a B.S. in Civil Engineering from the University of Missouri, Rolla, MO and an M.S. in Civil Engineering from Washington University, St. Louis, MO. After starting his professional career as a field engineer in 1989 Mr. Owaidat ascended through the positions of project engineer, project manager, and regional manager to become President/CEO of his own company. Over his twenty year career Mr. Owaidat has successfully overseen the construction of more than 200 specialty environmental, civil and geotechnical construction projects with a combined total value of more than \$500 million. His most noteworthy projects include a 3.2 million square foot soil-cement-bentonite cutoff wall in the American River Levee in Sacramento, CA which is the largest project of its kind in the United States, the largest set-back levee in Northern California, and the Rio Salado Town Lake, a 200 acre man-made lake in the middle of the Salt River in Tempe, Arizona.

Many of the projects that Mr. Owaidat has managed throughout his career have received awards for excellence, including:

- Outstanding Project of the Year for Parks and Recreation – 2009 – American Society of Civil Engineers, Sacramento Section
- Contractor of the Year (Pocket Geotechnical Cutoff Wall) – 2006 – U.S. Army Corps of Engineers South Pacific Division
- Outstanding Project of the Year (Sacramento River Levee) – 2005 – American Society of Civil Engineers – Sacramento Section
- Contractor of the year (Oak Ridge National Laboratory) – 2003 – Bechtel Jacobs
- Project of the year (Rio Salado Town Lake in Tempe, Arizona) – 1999 – American Public Works Association

Mr. Owaidat is a recognized expert in the design and construction of slurry walls. He is also an expert in applying in-situ and ex-situ soil mixing methods to solidify, stabilize or improve soils for site remediation and geotechnical applications. He serves as a Director on the Board of the Construction Institute-American Society of Civil Engineers and has authored or co-authored twelve technical papers on levees, soil improvement and slurry wall construction.

Mr. Owaidat actively supports his community. He chairs the scholarship fundraising committee of the Construction Institute which awards scholarships to deserving civil and construction engineering students. He also chairs and organizes fundraising events for St. Jude Children's Hospital and serves as a volunteer soccer coach and sponsor for the local youth soccer league. He resides in Roseville, California with his wife Maya and his children Hana, Julia and Malek.

*Source: Submitted by L.O. on August 13, 2010*

### **Payne, Howard**

Howard is a forty year Caltrans guy, and his career was largely shaped by the Interstate program. Howard was a bridge engineer for eighteen years, and then went into District work. He's been responsible for about a billion dollars of engineered construction.

Lately, he has written a commemorative article on the I Street Bridge being a hundred years old and still in service. The Sacramento Bee picked up on this, and now AISC's MSC magazine has taken it, and currently it is in publication. *Source: Sacramento Section ASCE 2011*

### **Pineda, Ricardo S.**

Ricardo S. Pineda, P.E., CFM is Chief of the Floodplain Management Branch of the California Department of Water Resources. Ricardo, a registered Professional Engineer in the State of California, is also the State's National Flood Insurance Program manager. He has a Bachelor of Science Degree in Civil Engineering from Santa Clara University 1980 and Master of Science Degree in Civil Engineering from California State University Sacramento 1986. Mr. Pineda has over 30 years of experience as a Civil Engineer with the California Department of Water Resources. This includes seven years as a water resources systems modeler, eight years in flood forecasting, hydrologic and hydraulic studies as a project engineer and manager on the planning,

design and construction of flood control projects jointly sponsored by the State and the U.S. Army Corps of Engineers. He then spent five years as Chief Engineer for the State Reclamation Board and has been chief of DWR's FPM Branch for ten years.

Ricardo believes that the future of floodplain management lies in finding the right balance between structural and nonstructural flood damage reduction projects and programs, and the integration of ecosystem restoration and agriculture in lands subject to flooding. He also advocates a high level of flood protection for urban areas protected by levees and the need for the urban areas to adopt strategies to mitigate for the residual flood risk. Mr. Pineda is a strong advocate of flood insurance to protect properties located in deep floodplains. He has served on numerous national committees for FEMA, the U.S. Army Corps of Engineers, and the Association of State Floodplain Managers. Ricardo has served since February 2007 as a commissioner for the Southeast Louisiana Flood Protection Authority-East which is focused on improving flood protection for the greater New Orleans area. He is also a certified floodplain manager and has served on the Board of Directors for the Association of State Floodplain Managers and various Federal-State Flood Risk Management committees. Ricardo can be reached at (916) 574-1475 and [rpineda@water.ca.gov](mailto:rpineda@water.ca.gov)

### **Porbaha, Dr. Ali**

Dr. Ali Porbaha has served as the Faculty Advisor for the Sacramento State ASCE Student Chapter for the past three years and in this position he has gained the esteem and respect of the chapter's members and leaders for going the extra mile. He made it his priority to meet new leaders the day they became officers and welcomed them to the team. Dr. Porbaha earned an Outstanding Faculty Advisor award at the University Level and the ASCE Region 9 Outstanding Faculty Advisor award for his service to the student chapter in 2008. *Source: The Engineerogram, Oct 2009*

### **Qualley, George**

George Qualley began his second "tour" as Chief, Division of Flood Management in March 2008, having also served in that position from 1989 to 2000. During the intervening years, he headed up the Power Planning and Contracts Management Office, helping to develop a cost effective power and transmission portfolio for the State Water Project. Shortly after passage of the flood bonds in November 2006, George was "conscripted" to serve on the FloodSAFE California Implementation Team, and was drawn back into the DFM fold as Chief, Flood Projects Office in January 2007.

As Division Chief again during 2008 and 2009, George was responsible for a staff of more than 300 that carried out the state's Flood Management Program, including flood and water supply forecasting; flood emergency operations; assuring adequate maintenance and repair of existing flood control projects; promoting effective management of unprotected floodplains to discourage unwise and damageable development; and collaborating with federal, state and local partners in developing new multi-objective projects in areas of critical need that integrate structural and non-structural approaches to flood risk reduction.

George was raised on a grain and cattle farm in eastern North Dakota, and earned his Civil Engineering degree from North Dakota State University in 1969 (Go Bison!). He started his engineering career that year with the Division of Highways (now Caltrans), transferring in 1975 to the Department of Water Resources. The 34 years of his career spent with DWR have been split about evenly between State Water Project and Flood Management activities. George retired from DWR in June 2009, but remains actively involved in development of the Central Valley Flood Protection Plan and other flood-related activities through his half-time work as “Retired Annuitant for Flood Management Issues”. *Submitted by GQ, Aug 13, 2010*

After nearly 40 years in State service, 33 of them with DWR, Division of Flood Management Chief George Qualley retired in early June.

Originally from North Dakota, Qualley was raised on a farm about 15 miles southeast of Fargo. He graduated from West Fargo High School before enrolling at North Dakota State University, where he received a Bachelor of Science degree in Civil Engineering in November 1969.

By December, George had landed a Junior Civil Engineer position with the Division of Highways (forerunner of Caltrans) where he worked on designing freeways and bridges.

Briefly sidetracked by statewide layoffs that hit Caltrans in 1975, Qualley began his long career at DWR in December of that year, starting in the Operations and maintenance Division’s Program Evaluation and Control Office.

More than three decades later, George has served two separate terms as Flood Management Division Chief, been with the State Water Project Power and Risk Office, the State Water Project Analysis Office, the aforementioned Division of Operations and Maintenance, and the State Water Resources Control Board.

Before assuming responsibility for a staff of more than 300 at DFM, Qualley’s DWR assignments included annual inspections of State Water Project civil works facilities; water rights analysis; SWP water contract administration; long-range SWP operations studies; and SWP power portfolio development and electrical transmission alternatives analysis.

Retirement offers George the opportunity to spend more time pursuing other interests. Most DWR colleagues know of his passion for motorcycles. In 2003 he joined hundreds of thousands of Harley-Davidson enthusiasts in “riding home” to factory headquarters in Milwaukee, Wisconsin, for a four-day celebration of HD’s 100th Anniversary. Between August 15 and September 9, George covered 6,536 miles through 15 states, including more than 2,500 miles on the fabled “Route 66” from Los Angeles to Chicago.

Wife Sharon “tolerates” motorcycles, he says. “She rides along on short trips...but stays home when I go long distance. Now that I’m retired, I’ll probably schedule one long ride every year, as long as I can do it. I’ve been to the Sturgis (South Dakota) Motorcycle Rally and I’d like to make it to Daytona (Florida) Bike Week one year soon.” Sharon has, however, enjoyed some of the “cool cars” they have had over the years, particularly the 1968 Plymouth GTX Convertible that they took on their honeymoon in 1972.

Qualley has more on his radar screen than motorcycles: “It’s absolutely impossible for me to be bored,” says the former Flood Division Chief, “because I have so many interests. We’ll spend more time enjoying our seven grandkids, and will travel both in the USA and overseas...and one of the things on my bucket list is to drive 150 miles an hour on the Autobahn. So, when we visit Germany, I’ll rent a car that’s capable of doing that.”

Looking back on his DWR years, Qualley remarks “it’s the people you remember. The work was interesting and very rewarding but it’s the personal relationships that really stand out. I’ve been very fortunate to work under and beside some really great people. Lester Snow has been ‘the right director at the right time in DWR’s history’, and I have appreciated his vision for the FloodSAFE California initiative. I particularly treasure the time I spent under former director David Kennedy’s inspiring leadership.”

Qualley says he plans to do some additional work for DWR as a retired annuitant but looks forward to certain aspects of being retired. “One thing I’m really going to appreciate,” he says, “is being able to wake up without the insistence of an alarm clock.” *Source: SPRING/SUMMER 2009 DWR NEWS/People*

George Qualley, retired Chief of Flood Management, received the “Andy Lee Award for Extraordinary Public Service” on September 9 during the annual Floodplain Management Association (FMA) Conference in San Jose.

“I was very pleased to be recognized by FMA for my efforts over the past two decades to support advancement of effective floodplain management (FPM) practices in California, and especially proud to receive an award named for Andy Lee — who worked harder to advance FPM objectives than anyone I know,” said Qualley upon receiving the award.

The Andy Lee award was created in 2001 in memory of Andrew “Andy” S. Lee, retired DWR Floodplain Management Branch Chief, FMA founding member and former California State National Flood Insurance Program (NFIP) Coordinator. Past award recipients include DWR Retiree Maury Roos.

Qualley, who retired as Chief of Flood Management in June of 2009, worked in various positions during his more than 33 years with DWR. He began his engineering career with Caltrans in 1969, working there for six years.

His two terms as Flood Management Division Chief (from 1989 to 2000 and 2008 to 2009) included periods of both dramatic budget reductions and of dramatic growth. In 2006, he served on the FloodSAFE California Implementation Team and from 2007–2008 as Chief of the Flood Projects Office.

George’s tireless efforts and leadership were instrumental during the flood events of 1995 and 1997 and during the period of prolonged high water in 1998. After the 1997 flood, George made major contributions to the Flood Emergency Action Team (FEAT) Report. It recommended



specific actions for improving the State's flood management system—with particular emphasis on non-structural flood risk reduction practices consistent with FPM objectives.

He has been a member of the FMA since its beginning in the mid 1980s. George worked closely with Andy's predecessor, Jean Brown, in building DWR's FPM program, and then promoted Andy Lee to FPM Branch Chief in 1992. Andy took the program to even greater heights over the next eight years, being recognized for excellence both within California and at the national level. George joined Andy in strongly supporting DWR's involvement in FMA, which established a strong foundation for the Association and significantly helped its growth early on. Ricardo Pineda succeeded Andy as Branch Chief, and over the past ten years has provided outstanding leadership in further "growing" DWR's FPM program.

The Floodplain Management Association, a regional organization, consists of professionals in California, Nevada and Hawaii working on the multiple aspects of floodplain management, including flood loss reduction, resource protection, and the promotion of multi-objective floodplain management strategies. *Source: WINTER 2009/2010 DWR NEWS/People*

### **Quinn, Timothy**

As executive director of the Association of California Water Agencies (ACWA), Timothy Quinn leads the largest water organization of its kind in the nation. With offices in Sacramento and Washington, D.C., ACWA is a statewide association whose 450 local public water agency members are responsible for about 90% of the water delivered in California.

Quinn, who became ACWA executive director in July 2007, has more than 25 years of experience in California water issues. He has worked on several key policy initiatives, including the Bay-Delta Conservation Plan now under development to protect endangered and sensitive species and to provide regulatory assurance to water users. He also participated in negotiation of the 2002 Sacramento Valley Water Management Agreement, the 2000 CALFED Record of Decision, the 1995 Monterey Agreement, the 1994 Bay-Delta Accord, and a number of water transfer agreements.

Prior to joining ACWA, Quinn served as deputy general manager of the Metropolitan Water District of Southern California and represented the district on numerous statewide issues since 1994. He joined MWD in 1985 as principal economist, and became deputy general manager in 1994.

Before coming to MWD, Quinn was a project manager at the Rand Corporation, specializing in research on natural resources and environmental policy issues.

He earned his bachelor's degree in economics from the University of Colorado in 1974 and his master's and doctorate degrees in economics from the University of California, Los Angeles in 1976 and 1983. *Source: Association of California Water Agencies website, [www.acwa.com](http://www.acwa.com)*

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### **Rees, Peter**

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Peter is a junior Construction Management major at CSU, Fresno. Upon completing high school he enlisted in the U.S. Navy with a goal to attend college at the end of his enlistment. Peter served tours in the Middle East. Upon receiving an honorable discharge in the fall of 2007 he enrolled at Fresno City College and was recognized twice on the Dean's list. Peter transferred to CSU, Fresno as a Construction Management major in the spring of 2009, and believes his future in construction is working in the private sector to improve water problems in the central valley of California. *Source: Sacramento Section Chapter, Construction Institute, 2009*

### **Reno, Mark**

With over 23 years of experience, Mr. Reno has been responsible for the PS&E and construction support of over 65 projects involving more than 130 bridges. He is the Project Engineer for the Auburn-Forest Hill Bridge Seismic Retrofit Project. And he is serving as the Structures Project Manager for the Sacramento Railyards Project. Other projects include new structures, widenings, upgrades and retrofits. He is a graduate of UC Davis and is currently a Principal at Quincy Engineering, Inc. While working at Caltrans, Mark served as Structures Design Branch Chief and supervised a 20-member bridge design team. In addition, he was the Assistant Chairman of Caltrans' Structural Steel Committee, a member of the Caltrans Earthquake Committee, and a member of the Post-Earthquake Investigation Team. Mr. Reno is a recognized expert and authority on steel bridge and seismic design and has been active on national peer review boards as well as authoring several technical papers. Mr. Reno was awarded the 2001 Arthur M. Wellington Prize by the American Society of Civil Engineers for his paper, "Section Properties for Latticed Members of San Francisco-Oakland Bay Bridge", published in the Journal of Bridge Engineering. He also has extensive experience and contacts which enable him to effectively manage and deliver successful Highway Bridge Projects (HBP). Mr. Reno currently serves as the Chairman of the Transportation Research Board's (TRB) Structural Section overseeing and directing the work of eight structural committees including Steel and Concrete Bridge topics. Mr. Reno was also the Structures Project Manager for the retrofit projects on the San Francisco-Oakland Bay Bridge Suspensions Spans, covering the projects from Treasure Island to the City of San Francisco. Caltrans received an award for these projects as the "Top Bridge Retrofit Project of the Last Decade" by the Applied Technology Council and the Structural Engineering Institute.

### **Reinhardt, Ric**

Ric Reinhardt is a registered Civil Engineer with experience in planning, design and construction of Flood Damage Reduction and Ecosystem Restoration Projects. His project experience includes:

- Program Manager for the Natomas Levee Improvement Program.
- Program Manager for the Three Rivers Levee Improvement Authority.
- Program Manager for the City of West Sacramento's Levee Improvement Project.
- District Engineer for Reclamation District 2103 and 817 in Wheatland.

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**Roos, Maurice D. “Maury”**

Currently Mr. Roos is Chief Hydrologist (part time) with the California Department of Water Resources in Sacramento, California, in its Division of Flood Management, where he works as a retired annuitant.

Mr. Roos had 43 years of experience as a water engineer with the Department when he retired from full time service in July 2000. He continues to work part time as a retired annuitant. Prior to retirement, he oversaw work on flood forecasting, hydrology, water supply and snowmelt forecasting, staff meteorology, and related subjects. As Chief Hydrologist, he also provided (and continues to provide) advice on floods, drought, climate change, and weather modification. He has kept abreast of a number of other California water and flood studies, including the Department’s Bulletin 160 statewide planning reports, especially as these relate to hydrology, water supplies and water demands.

Mr. Roos graduated with a B. S. degree in Civil Engineering from San Jose State University in 1957 and has been employed by the Department of Water Resources since then. His career began with studies on channels, levees, proposed water transfer works, and water quality in the Sacramento-San Joaquin River Delta of California. From 1965 through 1978 he served in the Department’s Division of Planning in various water planning studies, reservoir system operation studies, and helping evaluate water requirements and supplies and potential water system developments. He was one of the authors of several editions of Bulletin 160, the Department’s main water planning document. He was also involved in water rights hearings for the State Water Project.

In 1979, Mr. Roos began essentially his current assignment in the Division of Flood Management, primarily on flood and water supply forecasting for the major rivers of northern and central California. The work included providing staff expertise in hydrology and specialized hydrologic studies for other Department units, especially on flood related matters. Establishing and maintaining cooperative relationships with other agencies was an important component of the job. River forecasts and flood warnings were produced in cooperation with the federal National Weather Service. The snow measurement and runoff program was a cooperative effort with over 30 local water agencies and power utilities, overseeing the gathering of snow, precipitation, runoff and storage data and the production of the official State forecasts of runoff on major snow-fed rivers. This period of time included the deployment of a modern remote telemetry data acquisition system to aid in forecasting.

During the past 16 years, Mr. Roos has had opportunity during short term trips to share expertise in Israel, northern India, Nigeria, China and Pakistan. He also worked with the California Energy Commission several years ago developing suggestions for climate change related research in water resources.

Mr. Roos has a professional engineering license from the State of California, initially obtained in 1961. He served 6 years ending in 2005 as a member of the Board of Directors of the U. S. Committee on Irrigation and Drainage and participated in International Commission on Irrigation and Drainage congresses in Spain in 1999, in Canada in 2002, in China in 2005 and in Pakistan in

2008. He had previously been to China in 1998 with a delegation of the American Society of Civil Engineers, looking at the Three Gorges Dam Project. *Source: M. A. Farber, personal files, 2008-09*

### **Root, Norman**

Mr. Root earned a bachelor's degree in Civil Engineering from the University of New Mexico. His 53-year career in highways and bridges spans two western states, New Mexico and California, including traffic engineering, bridge and highway design and construction, and he has had papers published by the Transportation Research Board. In retirement he is striving to develop a California Surface Transportation Museum and Science Center. His professional affiliations include: American Society of Civil Engineers, National Society of Professional Engineers, Professional Engineers in California Government, Route 66 Association, and the Route 99 Association. He has served as California State Director of the Lincoln Highway Association, Chairman of the Caltrans History Preservation Committee, and President of the Board of Directors of the California Vehicle Foundation. *Source: Technical Program, Annual Meeting, Association of Environmental and Engineering Geologists (AEG), June 2009.*

### **Rozier, Alan**

Alan graduated with a BS in Civil Engineering from Sacramento State University in 1986. He passed the PE in 1989 and has been practicing Civil Engineering for 26 years. Alan began his career with Psomas as a student intern in 1985 providing drafting support and engineering support primarily on large commercial subdivisions. He continued with Psomas for 24 years working as a Project Engineer and Project Manager. His focus has been working as a consultant to Architectural Firms doing site development design on building projects, K-12 schools, colleges, and government buildings.

In 2008, after taking a leave of absence to build a vacation home in the Sierras, Alan took on a new challenge. He started a new Civil Engineering design team with an Architecture firm called LPA, Inc. Starting with him, over the past three years they have grown to a civil design team of 13. By removing the issues involved with consultant contracts, we have focused more on the design and providing a better product. This has been a very good experience and he wonders why more firms have not been providing multi-discipline design services. LPA has most of the design disciplines (Architecture, Landscape, Electrical, Mechanical, Plumbing, etc...) "In-House" and they all work together as a cohesive unit.

### **Schwegel, David M.**

David M. Schwegel has received the Sacramento Section's Stewart Mitchell Award for achievement in preserving and promoting awareness of our area's civil engineering history and heritage. Schwegel served as President-Elect of the Section in 2005-6, as its 88th President in 2006-7, and as Past President in 2007-8. In 2008, Schwegel gave public presentations on the history, present, and future of the Civil Engineering profession in the US, in which he showed the Section's DVD record of the 1930 ASCE Annual Conference, organized and hosted by the Sacramento Section under then-President Thomas A. Stanton. The DVD itself was produced by

the Section's History and Heritage Committee and Don Alden under the direction of then-Chairman Bill Hoey. *Source: The Engineerogram, Oct 2008*

### **Shell, Tyler**

Tyler Shell is a senior Civil Engineering student at California State University Chico. He gained interest in the field of civil engineering at a young age due to his involvement in the welding business that his Dad owns. From this experience he interned with Shimmick Construction twice; once on the BART Warm Springs Central Subway in Fremont, CA, and on the Dumbarton Bridge Seismic Retrofit in Newark, CA. Upon his graduation in December 2011 Tyler will pursue a full time position with Shimmick Construction. *Source: Sacramento Section ASCE 2011*

### **Shibatani, Robert**

Robert Shibatani is a physical hydrologist and CEO of The Shibatani Group, Inc. With 25 years of collective experience in physical hydrology, watershed resource management, and operational water consulting, he is a noted expert in long-range water supply development and an acknowledged international practitioner in snowmelt hydrology and potential hydrological regime shifts due to long-term climate forcings. Mr. Shibatani's international posts currently include the Specialist Group for Climate Change and Adaptation for the International Water Association (Netherlands), Task Force for Retreating Snowpacks and Glaciers (Belgium), Task Force for Arid Landscapes (Australia), Editorial Board for the *Journal of Water and Climate Change* (London, UK), Editorial Reviewer for the IWA Environmental & Risk Management Program (UK), Climate Change Editorial Reviewer for the 2010 IWA World Water Congress (Montreal), and Program Committee Member for the Joint Specialist Group Conference on Water Management and Climate, 2011 (Brisbane). Here in the U.S., Mr. Shibatani works closely within the context of CVP/SWP, COA, OCAP and Delta operations, American River watershed hydrology, federal water contracting, water transfers, and regional multiple-party water agreements. Mr. Shibatani is an adjunct industry instructor in the UC Davis - Graduate and Post-Doctoral Studies Program, Programming and Technology Committee Member for Capital Public Radio/NPR, and the current Vice Chair for the Sacramento Chapter of the EWRI. *Source: Submitted by RS, August 2010*

Mr. Shibatani has almost 30 years of collective experience in physical hydrology, watershed resource management, and operational water consulting. He is a noted expert in long-range water supply development in California and is an acknowledged international practitioner and technical expert in climate change hydrology. Mr. Shibatani has managed some of the region's most high profile federal/State water projects working closely within the context of CVP/SWP, COA, OCAP and Delta operations, American River watershed hydrology, federal water contracting, water transfers, and regional multiple-party water agreements.

Mr. Shibatani's current work focuses on future water supply options/development, drought planning, new reservoir development, potential hydrological regime shifts due to long-term climate forcings, strategic project funding, and in-Delta solutions.

Mr. Shibatani is an accomplished public spokesperson and community issues facilitator. He devotes considerable time to fostering water forum collectives, inter-regional agreements,

stakeholder liaison/outreach, graduate/post-doctoral business mentoring (UC Davis), international water resources and hydrologic research (IUGG/IAHS, IAEH, IWRA, IWA, and CWR/ACRH) associated with new water supply development, source area watershed climate change effects, and snowmelt isotope response. *Source: Submitted by RS, August 2010*

Robert Shibatani is an empirical snowmelt hydrologist and CEO of The Shibatani Group, Inc. A native of Toronto, Canada, he has almost 30 years of collective experience in physical hydrology, watershed resource management, and operational water consulting. He has worked on a range of field hydrological studies for diverse groups such as the United Nations (UNESCO), Atomic Energy of Canada Ltd. (AECL), Chalk River Nuclear Laboratories (now CRL), and various international universities and government ministries. Mr. Shibatani's graduate work focused on an early transboundary pollutant, sulfur dioxide, and its potential effects on watershed chemistry, acidic snowmelt shock in lakes, and runoff pathways in the Precambrian Canadian Shield and Adirondacks. Interestingly, this collaborative work between the U.S./Canada governments preceded the current interest in another transboundary pollutant, GHGs (climate change), by several decades. Mr. Shibatani, however, never lost his life-long curiosity in empirical hydrology and, today, is an acknowledged international practitioner in snowmelt empirical hydrology and hydrological regime shifts due to long-term climate forcings.

Mr. Shibatani's international posts currently include the Specialist Group for Climate Change and Adaptation for the International Water Association (Netherlands), Task Force for Retreating Snowpacks and Glaciers (Belgium), Task Force for Arid Landscapes (Australia), Editorial Board for the *Journal of Water and Climate Change* (London, UK), Editorial Reviewer for the IWA Environmental & Risk Management Program (UK), Climate Change Editorial Reviewer for the 2010 IWA World Water Congress (Montreal), and Program Committee Member for the Joint Specialist Group Conference on Water Management and Climate, 2011 (Brisbane).

Following graduate school, Mr. Shibatani spent 5-years in the Environmental Law Practice Group of Fasken & Calvin, Toronto (Fasken Martineau, internationally) where his work included representing over 120 international pulp & paper companies in what was then the largest and longest Environmental Assessment Hearing ever adjudicated in Canada. Pulled by the urge to return to hydrology, he left the corporate towers of the Big East and settled in California in 1993; California had water supply issues, the Great Lakes did not. By 1996, and now ensconced in the California consulting industry, he and several colleagues formed Surface Water Resources Inc. (SWRI), one of the leading water resource specialty firms in the region. Mr. Shibatani's inherent entrepreneurial spirit, however, inevitably led him to form his own firm, The Shibatani Group, Inc. by early 2008. His current work focuses on future water supply options/development, new reservoir development, watershed operation, CVP/SWP, COA, OCAP and Delta operations and, of course, climate change hydrology.

Mr. Shibatani is an accomplished public spokesperson and community issues facilitator appearing regularly on the speaker circuit for ACWA, CALAFCO, FMA and various other organizations. He devotes considerable time in fostering inter-regional agreements, international water resources research (IUGG/IAHS, IAEH, IWRA, IWA), and in supporting various associations and NGOs including as Programming and Technology Committee Member for NPR/Capital Public Radio and, as the current Vice Chair for the Sacramento Chapter of the EWRI. One of Mr. Shibatani's

most satisfying achievements, however, continues to be in working with today's youth, students, and in mentoring tomorrow's leaders; from Little League coach, to Volunteer with the Sacramento Crisis Nursery/Sacramento Children's Home, to being a long-time *adjunct* industry instructor in the UC Davis - Graduate and Post-Doctoral Studies Program. The Shibatani Group Hydrology Scholarship, offered annually to UC Davis students majoring in hydrology and having financial need, in one small way, hopefully makes it easier for some students to complete their studies.

“Canada, at least Ontario/Quebec has more lakes, rivers, and waterfalls than anywhere, save and except perhaps Finland and the Karelian Peninsula. Growing up there, most kids are exposed to this. This led to an overwhelming interest (and fear) of water. I just had to study it. The Canadian college system is (or at least was) strongly tied to the old British system; *process hydrology* was an independent field of study (as opposed to the U.S. system where it is more typically embedded into an engineering program). There were also three levels, a specialist's degree, a major, and a minor. For specialist's, there were virtually no electives, it was pure process hydrology for four years and intense scientific writing. The British system stressed that scientists had to know how to write and they were relentless.

“All of my professors were from the old British system; their eloquence, vernacular, and demeanor hooked me from day one. The rest, as they say, is history. My undergraduate supervisor was from Wales, a fiery Welshman but what a great hydrologist. He's the one who got me really hooked on hydrology. My graduate supervisor and committee included a gentlemanly New Zealander, a fiery Brit from Bristol (one of the first to discover edge waves in coastal zone hydrodynamics), and a regal sort from Reading, he was the one who actually nominated me for the NSERC scholarship that positioned me for the research posting with the United Nations. There was an international archaeological team and our hydrological team. Two graduate hydrologists, myself, representing Canada and a young lass from the University of Liverpool, representing the UK. It's because of all them, that I still retain the process knowledge and interest in empirical hydrology today. BTW - it was on that UN study that I saw my first physical flood wave wall migrating down the watershed - we were in the Badlands. I'll never forget that sight (or sound).” *Submitted by RS, September 2010*

### **Smith, Larry J.**

Larry Smith is Chief of Construction, Sacramento District. Larry was raised in Southern Utah and attended Southern Utah State College and the University of Utah where he completed Bachelor of Science and Master of Science degrees in Civil Engineering. He started his engineering career in 1971 with the Utah Department of Transportation. In 1974 he joined the U.S. Army Corps of Engineers. Larry is a Registered Engineer in the State of California and Utah.

Larry has held numerous positions in construction serving 18 years as a Resident Engineer. Larry is a Level II Administrative Contracting Officer. Larry is a Fellow in the American Society of Civil Engineers and an active member of SAME, NSPE and CMAA. [Larry Smith is the ASCE Sacramento Section President at this writing (2009).]

Larry's hobbies include Mountain Biking, summers at their Mountain Cabin, hunting, trap and target shooting, time at the gym, and being outdoors.

Larry is a Captain on a Volunteer Fire Department and is a California State Fire Marshall Certified Instructor. He teaches, Construction Quality Management for Contractors, Resident Management System and Scheduling seminars for all Districts in the Corps of Engineers.

Larry and his wife, Charlotte, have one son, Craig who is the programmer and co-founder of the Disk of Knowledge<sup>®</sup>. Larry has received numerous prestigious Construction Management and Professional Society Awards. *Source: M. A. Farber, personal files, 2008-09*

### **Smith, Garrett**

Garrett is a Senior Civil Engineering major at Santa Clara University. A native of Lake Stevens, WA. Garrett attended college on a running scholarship. Garrett finds the construction profession vastly fascinating and changing. Garrett has completed summer internships. Garrett prides himself on being independent and intent on learning and providing for himself. Sports have played a big role in Garrett's life. He considers himself very fortunate to be able to use what he loves as a vehicle for future endeavors. Garrett believes his future in construction will be of developing new methods and means to better people's lives. *Source: Sacramento Section Chapter, Construction Institute, 2009*

### **Socha, Matthew J.**

Matthew J. Socha has received the Sacramento Section's Jonathan Burdette Brown Award for achievement in Engineering Education. Socha served as Practitioner-Advisor to the student chapters at Sac State and UC Davis. Socha also served as President of the Capitol Branch in 2006-7, and as Past-President in 2007-8. *Source: The Engineerogram, Oct 2008*

### **Soldati, Steve**

During his tenure at Chico State, Steve served two terms as Vice-President of CSU, Chico ASCE Student Chapter, and then was elected President for his senior year. He has accomplished a great deal in ASCE; he increased membership, initiated a popsicle stick bridge competition for local high school students to promote civil engineering, and he coordinated FE/EIT exam review courses to help students pass the FE/EIT exam. Steve has been recognized for his outstanding academic and personal achievements during his time at CSU, Chico. He has had the honor of being rewarded for all his efforts by receiving the CSU Professional Award in the fall of 2008, and the Miyamoto International Scholarship and California Pavement Preservation Scholarship in the spring of 2009.

Steve has had experience in both the private and public sector of the civil engineering field. Since passing the FE/EIT exam, Steve has been looking for a great opportunity to gain maximum professional experience toward getting his PE license; he believes he's found that in the U.S. Army Corps of Engineers. Today, Steve is eager to start working for the U.S. Army Corps of Engineers in January as part of the Federal Career Internship Program. He and his wife are thrilled about the move to Sacramento, and starting this new chapter of life after college.



Having such a high involvement in ASCE has helped Steve enhance the leadership skills that he will bring to the work field. ASCE is a unique organization that strives to enhance opportunity and possibility for students in order to prepare them for the professional field, and that is not something you can get from a classroom. Steve is grateful for the amazing experience he has had, and is enthusiastic to get involved in the professional ASCE Sacramento Section. *Source: The Engineerogram, Dec 2009*

Steve graduated from California State University, Chico with a Bachelor of Science in Civil Engineering in 2009. Steve has had experience in both the private and public sector of the civil engineering field. Currently, he is working for the US Army Corps of Engineers on the Folsom Dam Auxiliary Spillway Joint Federal Project, where he performs quality assurance and other field engineering duties. Steve has had a great opportunity to learn in the civil engineering field and is eager to continue learning as his career progresses.

Steve is an associate member of ASCE. He has been involved in ASCE since 2006, holding high office positions for the CSU, Chico Student Chapter. Steve currently serves as the student affairs chair for the ASCE Younger Member Forum, Sacramento Section.

Steve and his wife, Whitney, live in Elk Grove, California. *Source: Sacramento Section ASCE 2011*

### **Spinks, Chuck**

Chuck Spinks received his Bachelors and Masters degrees in Civil Engineering from San Jose State University in 1976 and 1979, and has been a Registered Professional Engineer in California since 1979. From 1969 to 1973 he served in the Army with tours in Vietnam and Germany. He began his professional career in San Francisco as a consultant working in water resources and the planning and design of hydroelectric facilities. Chuck moved to San Diego in 1985, and, after 22 years in Southern California, he relocated back to Northern California in 2007. He has been with Kimley-Horn and Associates for 13 years and is a Vice President in the Sacramento office and lives in the Sierra foothills town of Auburn. An active ASCE member, Chuck has previously served as Region 9 Governor and Vice Chair, and was president of the San Diego Section and of the California State Council of ASCE. In addition to serving as the Region 9 Director, he is a member of the Society's EJCDC and Audit Committees.

### **Steinberg, Sen. Darrell S.**

Darrell S. Steinberg was born in San Francisco on October 15, 1959. He earned a BA in economics from UCLA and a JD from UC Davis Law School. He served as an employee rights attorney for the California State Employees Association for 10 years before his work as an Administrative Law Judge and mediator.

Steinberg served on the Sacramento City Council from 1992-98, representing the 6th District, where he founded Sacramento START (Students Today Achieving Results for Tomorrow), a free literacy-based public/private after-school program.

Steinberg was a member of the California State Assembly from 1998 until he was termed out in 2004. He is currently serving in the California State Senate, (2006-) representing the 6th District. He has been the Senate President Pro Tem since 2008.

### **Steiner, Jacqueline**

In Fall of 2008, Jacqueline Steiner was awarded the Alfred R. Golze Scholarship. Aside from maintaining excellent grades, Ms. Steiner has been greatly involved in community service through student organizations at California State University, Chico. Moreover, she has furthered her education by taking part in various research projects, all the while keeping her professional career in focus.

During the winters of 2007 and 2008, Ms. Steiner traveled with a group of students to aid in the rebuilding of New Orleans after the devastation of Hurricane Katrina. In New Orleans, she learned how to hang drywall, build a chain link fence, install trusses, sheet a roof and hang siding all with the purpose of returning displaced families to their homes. Last winter Ms. Steiner worked with a team to build storage sheds for fire victims of Northern California who lost their homes. Ms. Steiner finds great pleasure in giving her time and talents to helping people who want help. She plans to be actively involved in community service projects wherever she goes.

Academically, Ms. Steiner has excelled. She has been on the Dean's List, a member of Tau Beta Pi, and recently received the Lieutenant Rawlins Merit Award. Ms. Steiner spent the summer of 2007 at Stanford University researching performance based earthquake engineering. She has also been working for Applied Technology Council (ATC) on a research project that is currently developing a method of measuring building performance. To gain professional experience, Ms. Steiner spent this last summer working for a structural engineering firm in Southern California.

Ms. Steiner is currently the ASCE Vice President for the Chico's Student Chapter where she has reorganized the EIT review to make it more efficient for future vice presidents. Her involvement with ASCE has been a great learning and networking experience. As a professional, she plans to participate with ASCE by being involved with the Younger Member Forum (YMF).

This spring, she will be traveling to New Zealand to study their construction practices while completing her undergraduate courses. When she returns, she will embark on her professional career by participating in the Army Corp of Engineers intern program. *Source: The Engineerogram, Jan 2010*

### **Sudman, Rita Schmidt**

Rita Schmidt Sudman is Executive Director of the Water Education Foundation. She directs the development of *Western Water* magazine, the *Layperson's Guide* series, the Foundation's Colorado River program, public television programs on water, poster maps, tours, press briefings

and school programs. Ms. Sudman is a former radio and television reporter and producer and received her master's degree in telecommunications from San Diego State University. She has developed a television production team which has won two Emmys and several regional Emmy nominations for the Foundation's public television documentaries. She has served on numerous boards including the President's Advisory Commission on water for the University of California and the board of Water For People, an international program assisting people in developing countries to obtain safe drinking water. In 2003, she received the *Lifetime Achievement Award* from the Groundwater Resources Association of California in recognition of her efforts on groundwater education. In 2005, she received the *Service to the Water Industry Award* from the American Water Works Association (AWWA) the California-Nevada Section in recognition of her dedication to leading and educating drinking water professionals.

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**Thompson, Kevin J.**

Kevin J. Thompson is currently the State Bridge Engineer for the California Department of Transportation. He is also the Deputy Division Chief for Structure Design in the Department's Division of Engineering Services. As Chief of Structure Design, Mr. Thompson directs the work of approximately 320 people in five structure design offices. In addition, he is ultimately responsible for the work of all Structure Design Technical Committees and Specialists in the review, approval and maintenance of bridge design, criteria, procedures, standard details and workforce development.

Mr. Thompson is a graduate of Arizona State University with a Bachelor of Science in Civil Engineering. He has worked for the California Department of Transportation for 24 years. During that time, he has held a variety of positions in Highway Design, Highway and Structure Construction, Contract Advertisement and Award, and Transportation Management. The majority of his experience is in the area of Bridge Design. *Source: KJT Resume, 2007*

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**Wagner, Joshua A.**

Joshua A. Wagner has been chosen one of six students to receive the Samuel Fletcher Tapman ASCE Student Chapter/Club Scholarship. The \$3,000 scholarships are made possible through a bequest made by Tapman in 1961. Wagner, a senior at Sac State, has passed the National Council of Examiners for Engineering and Surveying's Fundamentals of Engineering Exam and will be graduating next May. His two areas of focus are geotechnical and transportation engineering, and he plans to continue his studies and ultimately earn a master's degree. He has been an intern at Parsons Brinckerhoff for more than a year and says that he is excited about graduating soon and continuing his education. Wagner has served as secretary of the university's ASCE chapter and also established the chapter's newsletter, The CE Spotlight. He enjoys developing ideas and discovering the best ways to help the next wave of students. Wagner is currently the chapter's treasurer and has been instrumental in starting a free civil engineering computer software training program - Sessions - which focuses on teaching students and members how to use AutoCAD. *Source: The Engineerogram, Oct 2008*

Josh has served ASCE well as a student as well now as a professional. Before becoming the newest Practitioner Advisor to Sacramento State ASCE and a member of the Section, Josh served

as President of the Student Chapter, where he led the chapter to tremendous success on a number of programs. *Source: The Engineerogram, Oct 2009*

Joshua Wagner had the honor of serving as Treasurer of the Sacramento Section this past year and is looking forward to another year managing the Section's finances. Joshua graduated with a BS in Civil Engineering from Sacramento in 2009 and currently works as a Civil Engineer for the U.S. Army Corps of Engineers on the Folsom Dam Auxiliary Spillway Control Structure Project. Josh has been involved with ASCE since he was a student serving the student chapter as an officer for over two years. He is currently the Practitioner Advisor for Sacramento State and serves on the Section's Publications committee. *Source: Sacramento Section ASCE 2011*

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### **Warnock, Paul**

Paul is a senior Civil Engineering major at UC, Davis. Paul is a single custodial father who has worked his way up through the design industry from entry level CAD Draftsman to a Project Manager in an architectural firm. Paul balances time between work, school and being a parent. He feels juggling a family, a career, and a university education is a daunting task, and believes his future in construction is to continue and advance sustainable projects through better design and construction techniques. *Source: Sacramento Section Chapter, Construction Institute, 2009*

### **Wheelis, Jennifer L.**

Jennifer L. Wheelis has received the Sacramento Section's Joseph W. Gross Award for achievement in Humanitarian activities. Wheelis served as Vice-President of the Capitol Branch in 2007-8, and was recently elected President-Elect. In 2007-8, Wheelis also served as an officer of the Sacramento Valley Professional Chapter of Engineers Without Borders, first as Project Manager for the Shisasari Kenya Project, then as Treasurer, then as its fifth President. *Source: The Engineerogram, Oct 2008*

### **Woodruff, Melissa**

Melissa Woodruff is a Registered Civil Engineer & Construction Manager. She has successfully managed numerous transportation projects in Northern California and serves as co-chair of the Sacramento Section Chapter of the Construction Institute (SSCI). Her contributions have resulted in the early and continuing success of SSCI. *Source: The Engineerogram, Oct 2009*

### **Wrenn, Allen**

Allen Wrenn graduated San Diego State College (now University) in June 1958. A week later he began his career with the California Division of Highways which later became the California Department of Transportation (Caltrans).

Over a period of more than 39 years he held various technical and managerial positions in the San Diego, Marysville, Eureka and Sacramento offices of the state agency.

During his time in the Marysville office one of his major accomplishments was the coordination of the basic design of the Highway 65 Roseville Bypass. Another standout assignment was Design Engineer of a major portion of the initial Sacramento Light Rail Transit project. In the Eureka office he was District Director of Transportation.

A year after his retirement from Caltrans in 1997 he began serving as Guest Lecturer on cruise ships bound for the Panama Canal, with his primary subject being the Canal. This enabled him to combine his engineering knowledge with his passion for history, travel and photography.

Allen's interest in the Panama Canal began when he was a young boy growing up in San Diego. It was then that he learned his hometown had, in 1915, hosted the Panama California Exposition to celebrate the opening of the Panama Canal.

He has transited the Panama Canal 69 times, 67 of those as Guest Lecturer. His on-board presentations cover the History, Construction and Operations of the Panama Canal, which has been designated by ASCE as:

- An International Civil Engineering Landmark
- One of the Seven Wonders of The Modern World
- One of the Ten Monuments of The Millennium

His on-board audiences have totaled more than 45,000 people.

His sharing of knowledge of the Panama Canal has reached even further through his production of a video that is an expanded version of his on-board lectures. Sales of the video have exceeded 1,500 and are currently offered through a national magazine.

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### **Yaroshevich, Alex**

Alex is a Senior Civil Engineering major at CSU, Sacramento. Alex was born in Ukraine and is the oldest of eight children. Alex finished first grade in Ukraine and moved to the United States with his parents. Alex attended public schools, and worked at Krispy Kreme to support himself in college. Working his way to a manager level position, Alex learned leadership skills and responsibility. He is involved in his church youth organization planning events and services, and worked for Belfour Beatty gaining valuable construction experience. Alex enjoys reading, playing volleyball, and snowboarding in the winter. Alex believes challenges, goals, and success is his future in construction. *Source: Sacramento Section Chapter, Construction Institute, 2009*

### **Young, Greg**

Greg Young is an engineer for Quincy Engineering. He has served as practitioner advisor for the Sacramento Section and the Younger Member Forum. Greg was also the Senior Director of the Sacramento Section this past year. Greg also loves biking to work.

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### **Yu, William Wen**

William has interest in structural engineering and hopes to pursue a graduate degree and ultimately attain his PE license. William serves as an Engineering Joint Council Representative and is currently doing undergraduate research on mechanism-based fiber composite bi-stable structures and its applications to deficient bridge infrastructures. *Source: The Engineerogram, Mar 2010*

## **Zelinski, Ray**

Ray Zelinski, Bridge Engineer (Retired)  
Caltrans, 1962 - 2003

Education: BS, Civil Engineering, Marquette University, 1962

Professional Engineer (Civil), California, C17729, 1968

### Current Professional Memberships:

American Society of Civil Engineers - Fellow and Life Member  
American Concrete Institute - Member

### Career Experience Summary:

Mr. Zelinski served 40 years as a bridge engineer with Caltrans, including 15 years as a construction engineer and 25 as a design engineer. 21 of the design years were heavily focused on earthquake engineering. His final 4 years at Caltrans were spent as Chief of the 40-person Office of Earthquake Engineering. Mr. Zelinski retired in January, 2003.

Independently, Mr. Zelinski was a member of a peer review panel for dozens of bridge retrofits for the City of Seattle; he was a consultant for seismic projects in Washington, South Carolina, New York City, and New Zealand; provided seismic advisory services for URS Corp and other entities in 2004-05; and he served two years as a seismic expert witness in a major contractual claim litigation in 2006-08.

### Project Experience:

Served as a Caltrans Construction Engineer, June 1962 to April 1975. His major construction accomplishment was performing field engineering on the Pine Valley Creek Bridge (PVCB) in Southern California, 1972 to 1975. The PVCB was the first cast-in-place concrete segmental bridge constructed in the U.S. During the final year on this project, he served as Bridge Resident Engineer.

He served as Construction Resident Engineer on the Koror-Babelthuap Segmental Concrete Bridge in the Palau Islands from October 1975 to April 1977 while on leave from Caltrans.

He designed several typical highway bridges and soundwalls, Caltrans, 1975 to 1982.

As chief of a Caltrans Bridge Design Section, he managed the designs of the Airport Viaduct elevated freeway on Rte 105 in Los Angeles; and the 24/680 Interchange separation structures reconstruction in Walnut Creek, 1982 to 1989.

For 2 years (1995-96), Mr. Zelinski managed the design squads that produced the contract documents for the San Francisco Oakland Bay Bridge (SFOBB) east spans retrofit (\$800-million project) which was aborted in 1997 in favor of a replacement span.

He served as Chair of the Caltrans reinforced concrete technical committee and as the trainer for the reinforced concrete design course intermittently, 1977 to 2000.

He served as the designated Caltrans Bridge Retrofit Specialist, 1982 to 2002.

Military: Served in the U.S. Army, 1963 - 65.

Conference Presentations:

1985, US/New Zealand Joint Bridge Workshop

1985, US/Japan Joint Bridge Workshop

1990, SEAOC Conference

1991, UCSD Bridge Research Conference

1991, ASCE Seismic Lifeline Conference

1993, Deep Foundation Institute Seminar

1994, ACI Conference

1994, US/Japan Bridge Workshop

1995, ASCE Convention

1995, ACI Convention

1996, SAMPE Convention

1997, ASCE Structure Congress

1998, ASCE Convention

Publications:

Sept. 1989, ACI Structural Journal, co-author with Prof. Lawrence Selna,  
Hinge Restrainers

April 1989, ASCE Structural Journal, co-author with Prof. Lawrence  
Selna, Hinge Restrainers

April 1994, Cover article Civil Engineering magazine, Double-deck Bridge  
Retrofits

May 1996, SAMPE Journal, Bridge Retrofits

Spring 1998, ACI Technical Publication, Bridge Retrofits

*Source: Submitted by RZ on August 16, 2010*

Ray Zelinski is the most recent recipient of the ASCE Sacramento section Frederick W. Panhorst Structural Engineering Award. Ray was presented this award based on achievements during his 40-year career with the Caltrans Division of Structures. Ray worked for 15 years in construction and 25 years in design with Caltrans, from June 1962 until his retirement in January 2003. During those years, he also served in the military, worked in private while on a leave of absence, and devoted some time to the private sector while on vacation leave.

Ray's major contribution to Caltrans was the 20 years devoted to bridge seismic engineering while assigned to the design office in Sacramento. He was promoted to a manager of

a design section in January 1983, and inherited the role of Bridge Retrofit Specialist. In this role, he had responsibility for developing seismic resistance details for thousands of existing bridges on the State Highway system. He also conducted retrofit training for both in-house and private engineers responsible for delivering bridge retrofit plans. Originally, the emphasis was on superstructure hinge restrainers, but then turned to column retrofits in 1986. Column retrofit details were established and laboratory testing was begun under Ray's watch. The bridge column retrofit program evolved when funding was approved following the 1989 Loma Prieta Earthquake (LPEQ).

Following the LPEQ, Ray's seismic engineering role was greatly expanded. He was placed in a new role as manager of a new Office of Seismic Technology (SEITECH). He and his staff were charged with managing activities associated with reconstruction of the damaged double deck structures in San Francisco, managing consultant designers and seismic peer review teams and directing design efforts for the State column retrofit program. In addition, Ray and his team were assigned to manage the new annual \$5-million seismic research program established by Caltrans.

Eventually, SEITECH was merged with the Caltrans Bridge Seismic Analysis Office into a single Office of Earthquake Engineering under the direction of Jim Gates. This office of 30 engineers were dedicated to many seismic functions such as seismology, hazards, structure vulnerability, research, isolators, dampers, new products, etc. Ray was appointed to Manager of this office for his final 4 years with Caltrans prior to his retirement.

In Ray's early years with Caltrans, he was assigned to various construction projects in Southern California. His most prominent assignment was the Pine Valley Creek Bridge (PVCB) located east of San Diego. The PVCB was the first cast-in-place segmental bridge in the U.S. Ray managed the superstructure engineering activities for Caltrans, and eventually served as the Caltrans Structure Representative during the final several months. The experience gained at the PVCB resulted in a temporary advisory assignment on a segmental bridge in Hawaii, and then, while on leave of absence from Caltrans, as Resident Engineer on a major segmental bridge in the Palau Islands, Micronesia, 1975 to 1977.

Independently, Ray was a member of a peer review panel for dozens of bridge retrofits for the City of Seattle; and was a consultant for seismic projects in Washington, South Carolina, New York City, and New Zealand. In addition, he was hosted for one month in 1988 by the Japanese government as a seismic specialist. He has presented papers in more than a dozen national conferences and workshops, and has published articles in ASCE, ACI and SAMPE journals. He also assisted with the two Orthotropic Bridge Conferences held in Sacramento.

Ray enjoys backpacking, skiing, golf, bowling, fishing and square-dancing in his spare time. When his children were young, he was active as coach, referee and umpire in youth sports. He also served as Assistant Scoutmaster for his son's scout troop.

Ray earned a BSCE degree from Marquette University in 1962. He is a Fellow and Life Member in ASCE and is a Member of ACI.

*Source: Submitted by RZ on January 27, 2011*

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### **Zorne, Jeremy J.**

Jeremy Zorne received both Bachelor's and Master's degrees in Civil Engineering from Sacramento State, and is a licensed civil and geotechnical engineer in California. He is a Senior Project Engineer with Geocon Consultants, Inc. a geotechnical engineering and environmental



consulting firm in Sacramento. He manages projects ranging from geotechnical investigations for design of new facilities to geotechnical testing and observation services during construction. Typical projects include: public works facilities, water/wastewater treatment/distribution facilities, residential developments, commercial/industrial developments, utility infrastructure, transportation infrastructure, and parks and recreation facilities.

He has been involved with ASCE since 1995. Over the past six months, he has spearheaded the effort to establish the *Sacramento Section Geo-Institute* (SSGI) for which he served as its first Chair. The SSGI is the local geotechnical specialty institute of ASCE mirroring the goals and purpose of the national Geo-Institute. *Source: Zorne candidate statement, 2008*

Jeremy J. Zorne has received the Sacramento Section's Francis N. Hveem Award for achievement in the field of Geotechnical Engineering in 2007-8. Zorne was recently elected to the office of Treasurer of the Sacramento Section's Board of Directors. In 2008, Zorne organized and Chaired the Sacramento Section's Chapter of the Geo-Institute. *Source: The Engineerogram, Oct 2008*

Jeremy Zorne received both his Bachelor's and Master's degrees in Civil Engineering from Sacramento State and is a licensed civil and geotechnical engineer in California. Jeremy is a Senior Engineer and Area Manager for the Rocklin office of Geocon Consultants, Inc., a West Coast geotechnical engineering and environmental consulting firm. Jeremy has served on the ASCE Sacramento Section Board of Directors as Section Treasurer since 2008. Jeremy is also the Founding Chair of the Sacramento Section Geo-Institute Chapter of ASCE. Jeremy also served as the Geo-Institute representative on the national Geo-Coalition Task Force addressing geotechnical constructability. *Submitted by JZ, September 2010*

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