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**Engineers Make a  
World of a Difference**

**February 19 – 25, 2012**

**NATIONAL ENGINEERS WEEK**

**San Diego County Engineering  
Council**

***Awards Banquet***

**Corporate Sponsor:  
Science Applications International  
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(SAIC)**

Hosted by:  
Department of Engineering – USD Sponsor  
Joan B. Kroc Institute for Peace and Justice  
University of San Diego, California  
February 24, 2012

**AGENDA**

**National Engineers Week** (NEW) is always celebrated at the time of George Washington’s birthday. Our nation’s first president was a military engineer and a land surveyor. The purpose of NEW is to increase awareness of engineering’s contributions to our quality of life as it unites engineers and the public in a celebration of innovation and technology.

This 61<sup>st</sup> Anniversary of National Engineers Week is celebrated from February 19-25, 2012. This year the national NEW Committee has selected the American Society of Mechanical Engineers (ASME) as the National Chair. NSPE serves as the headquarters for the national committee.

The local San Diego NEW 2012 Planning Committee involved over 10 individuals representing over 10 San Diego organizations participating in the planning and projects. The San Diego County Engineering Council (SDCEC) sponsors NEW-SD. The organization consists of over 20 societies whose members serve on the local planning committee. The San Diego Section of the ASME is the local General Chair. The California Society of Professional Engineers (CSPE-SD) is the local Secretariat. The Chairs of the various committees for NEW 2012 San Diego are drawn from NSBE, SHPE, ASCE, ASM, ASME, CSPE, IEEE, INCOSE, SME, and SWE.

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

One of our goals is to get more young people informed and interested in engineering as a career. The Discover Engineering Mall Exhibit will be held on February 25th at the Grossmont Center Mall. This year NEW-SD 2012 societies will co-sponsor the MATHCOUNTS San Diego competition, hosted by the University of California San Diego on February 25th. Student competitions and other activities were planned at local universities (SDSU, UCSD, USD, City College, Mesa College), including the annual “Walk on Water” (WOW) contest sponsored by the University of San Diego (USD) student engineering societies (IEEE, IIE, SWE).

The events and activities of the week are celebrated at the NEW-SD Awards Banquet on Friday, February 24th at the University of San Diego, sponsored by USD Department of Engineering. A number of awards are presented to recognize the contributions of San Diego area engineers and others who contribute to engineering practice, education, technology, professionalism, society, and the San Diego community. A keynote speaker presentation concludes the banquet program.

**6:00 - 7:15pm Reception**

Shiley Science and Technology Atrium

**7:00-9:15pm Banquet**

Joan B. Kroc Institute for Peace and Justice Banquet Room  
Nip Shah, ASME, NEW SD 2012 General Chair, Banquet MC

**8:00-8:30pm Awards Presentations**

Gerald Gerace, IEEE, NEW SD 2012 Awards Chair

- 1) **Outstanding Engineer;**
- 2) **Outstanding Engineering Educator;**
- 3) **Outstanding Engineering Project;**
- 4) **Dr. Thomas Avolt Kanneman Outstanding Engineering Service Award;**
- 5) **Outstanding Electrical Engineering Project;**
- 6) **Outstanding NSBE Engineering Project;**
- 7) **Outstanding Leadership in Engineering Outreach**

**8:30-9:15pm Keynote Speaker John Halchak**

Introduction by Nip Shah, ASME, NEW SD 2012 General Chair

**9:15pm Closing Comments**

**San Diego County Engineering Council (SDCEC)**

**NEW 2012 San Diego Planning Committee**

<b>Name</b>	<b>Society</b>	<b>Office, Sub-Committees</b>
Nip Shah	ASME	Gen Chair; Banquet MC
Gerald Gerace	IEEE	Awards Chair
Ken Discenza	CSPE	Finance Chair, Treasurer
Phillip Young	ASME	Secretary
Mehdi Khalili	CSPE	Publicity Chair, Webmaster
Eian Schnoor	ASHRAE	Program Pamphlets
Peter Livingston	CSPE	MATHCOUNTS
Emil Rudolph	ASCE	Mall Exhibit
Sandi Wong McKellips	SWE, SHPE	Student Coordinator
Grady Gordon	NSBE	Society Rep
David Sulli	SME	Society Rep.
Jo Ann Lane	INCOSE	Society Rep.

## Outstanding NSBE Engineering Project (SDCEC/NSBE)

### **Charles Anderson Summer Engineering Experience for Kids Camp**

The San Diego engineering community recognizes Summer Engineering Experience for Kids Camp as an outstanding achievement.

The Summer Engineering Experience for Kids (SEEK) is the National Society of Black Engineers (NSBE) free three week summer camp that provides interactive engineering activities for more than 300 students per camp in third through fifth grades or sixth through eighth grades. The SEEK program utilizes a hands-on design curriculum developed by SAE international (Society of Automotive Engineers). The program is designed to spark an interest in engineering in the underserved community that many participants had not previously considered. The National Society of Black Engineers would like to formally thank Charles Anderson for keeping the SEEK team on target to meet the 2012 camp goals. Charles' willingness to step up as a leader in planning assistance and camp logistics has served to ensure a successful and remarkable program here in San Diego, CA. By his exceptional ability, personal initiative and total dedication to community service, Charles Anderson has reflected credit upon himself and upheld the highest traditions of the National Society of Black Engineers.

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## Outstanding Leadership in Engineering Outreach

### **Alan Dulgeroff SDG&E**

Diversity outreach projects are important for enticing a larger number of qualified people into the engineering profession. This award collectively recognizes outreach projects throughout the San Diego engineering community. We chose to identify Alan Dulgeroff with this award because his commitment to diversity outreach is a model for all of us. As part of his diversity outreach efforts he has partnered with multiple student organizations inclusive of NSBE, SHPE and SWE. Alan has shown his support by attending numerous conferences and supports each organization on a local, regional and national level. Alan Dulgeroff was recently appointed to Director of Information Technology for Enterprise and Corporate Systems at SDG&E. He previously held the position Director of Asset Management and Smart Grid Projects. In eighteen years at SDG&E, Mr. Dulgeroff has held eleven previous leadership and technical positions in nine areas of the Company's electric and gas transmission and distribution engineering, construction, operations, and maintenance.

## **NEW 2012 SAN DIEGO AWARD RECIPIENTS San Diego County Engineering Council (SDCEC)**

### Outstanding Engineer

### **Joseph E. Sauvageau, Ph.D. Science Applications International Corporation (SAIC)**

The award recognizes an engineer from the San Diego area who has made outstanding contributions to the field of engineering, serves the engineering profession and the general public. (SDCEC)

Dr. Joseph Sauvageau is the SAIC Space Systems Development Division Chief Engineer and Site Director. He is leading teams that are developing state-of-the-art sensor payloads for a wide range of space and airborne applications, capable of serving government and commercial missions, and utilizing visible, infrared and hyper spectral imaging sensors.

Dr. Sauvageau is the Chief Engineer who led the San Diego team that pioneered the design and development of the Commercially Hosted Infrared Payload (CHIRP)- a major infrared sensor technology advancement in behalf of the US Air Force. CHIRP is a hosted payload aboard a commercial communications satellite that was launched on an Ariane V rocket on September 21, 2011 from the Guiana Space Center, Kourou, French Guiana and carried into a geosynchronous orbit, 26,199 miles in space. Dr. Sauvageau was responsible for the payload electro-optical system development, environmental testing, calibration campaign, spacecraft integration efforts and he followed the payload through launch and initial on-orbit check out and characterization.

The CHIRP team is a government-industry collaboration led by the Air Force's Space and Missile System Center Development Planning Directorate. CHIRP is a pathfinder for both WFOV Infrared staring technologies and commercially hosted payloads. Col. Scott Beidleman, Space and Missile Systems Center's Development Planning director has recently commended the CHIRP government and contractor teams for our dedication to mission success. The ongoing success of the CHIRP program is proving that a wide range of government missions can be served by special purpose payloads, inexpensively hosted and launched on commercial spacecraft. The space-qualified infrared payload is enabling the Air Force to rapidly respond, field the required capability and demonstrate the new technology for current and future overhead. The San Diego engineering community recognizes Dr. Joseph Sauvageau's outstanding contributions to engineering projects in San Diego County.

### **Outstanding Engineering Educator (SDCEC)**

**Thomas F. Schubert, Ph.D.  
University of San Diego (USD)**

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

Dr. Thomas F. Schubert, Jr. received BS ('68), MS ('69), and PhD ('72) degrees in Engineering from the University of California at Irvine (UCI). As such, he was a member of the first engineering graduating class and the first person conferred with three engineering degrees from UCI. Prior to coming to the University of San Diego (USD) in 1987 as one of the founding faculty of the new USD engineering program, he was on the engineering faculty at the University of Portland and at Portland State University. He served as Director of Engineering Programs at USD from 1997 to 2003. Dr. Schubert's teaching interests lie mainly in the areas of analog circuits and electronics, communication systems, and electromagnetic fields. He originated all the courses and laboratories in these areas at USD and recently traveled to Australia to teach the first USD study-abroad electrical engineering course.

Dr. Schubert is an active participant in the USD Navy JROTC summer program sponsored by the US Navy and USD to nurture junior-level, minority and underprivileged high school students with the hope that they will consider engineering as a field of study. Dr. Schubert also provides research opportunities and mentoring for two students in the Ronald E McNair Post-baccalaureate Achievement Program for 1st generation, low-income USD students through their undergraduate years and into graduate school, expecting that they will consider careers in college teaching. Students presented their research results at the 2011 UCSD Summer Research Conference.

As a dual-career individual, a professional bassoonist, Dr. Schubert actively promotes an engineering education that contains sincere and enriching breadth of study: he recently organized the symposium "Music and the Sciences: Synergies among Musical Arts, Math, Science, and Engineering" at a recent Pacific Division meeting of the American Association for the Advancement of Science. Additionally, Tom has performed as many as 30 children's concerts a year within the last 8 years. Dr. Schubert is deeply interested in engineering education and has focused on disseminating his experiences in that field. His publications include a textbook, chapters in engineering encyclopedias and handbooks, and papers related to engineering education and the engineering design process. The San Diego engineering community recognizes Dr. Thomas Schubert's outstanding contributions to engineering education and research in San Diego County.

### **Outstanding Electrical Engineering Project (SDCEC/IEEE)**

**Todd Uzzell  
Blackbody Calibration System using Fourier Transform  
Infrared Spectrometer  
Department of the Navy  
Navy Primary Standards Laboratory**

Mr. Todd Uzzell was instrumental in developing the NPSL measurement system to achieve high accuracy spectral calibration of blackbody sources with traceability to the SI unit of spectral radiance through the National Institute of Standards and Technology (NIST). This system provides enhanced high-accuracy primary standards for military systems that include Forward-Looking Infrared (FLIR) and Radiation Missile Guidance Systems requiring non-contact temperature calibration support. NPSL's system utilizes a Fourier Transform Infrared (FTIR) spectrometer, covering the spectral range from approximately 3 to 20  $\mu\text{m}$  and covers a temperature range from 10°C to 1000°C. In operation, the system compares the measurements of the infrared radiation of a test blackbody with those of NIST calibrated variable temperature reference blackbodies, utilizing the FTIR spectrometer to provide the desired radiance temperature spectra in a report of calibration. The calibrated blackbodies, along with the accompanying Report of Calibration, verify and validate the performance of the weapons guidance systems.

The immediate benefit to the Navy lies in the ability to quantify the spectral response of blackbody sources used to verify weapons guidance system performance and eliminate from the Navy's inventory, sources that could potentially cause a maintainer to make an incorrect test decision relative to the weapons system performance and readiness for use. This achievement provides an invaluable tool to the Navy by providing weapons system maintainers as well as engineers responsible for enhancing the performance of the system with the ability to identify and correct potential system flaws that limit the weapon system effectiveness. The San Diego engineering community recognizes Blackbody Calibration System using Fourier Transform Infrared Spectrometer as an outstanding electrical engineering achievement.

## Outstanding Engineering Project Award

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

**Sandi J. Wong McKellips  
Fleet Readiness Center Southwest  
Naval Air Station North Island**

Sandi J. Wong McKellips earned her Bachelor of Science in Metallurgical Engineering from the University of Texas at El Paso (formerly Texas College of Mines and Metallurgy and Texas Western College). She complemented her BS Met E with a Masters in Business in Government Contracting from George Washington University. She has served the NAVAIR community as a Process Engineer for Heat Treat and Manufacturing, Engineering Contract Lead, ISO 9001 Lead Auditor, Organizational Unit Management Representative for Environmental Issues, Manufacturing Contracts Manager, Critical Item Manager, Ground Support Engineer, WESTEC Presenter on Aging Aircraft, Currents Magazine Author, and as a Co-Founder and Program Manager for the highly acclaimed NAVAIR Science Enrichment Program for 15 of the last 20 years.

The Mother of two and a Wife for over 28 years still has carved out time to “give back” to her community and beyond. Sandi was the Society of Hispanic Professional Engineers (SHPE) National Banquet Chair in 1993 and the Society of Women Engineers (SWE) National Family Issues Chair from 1994-99. She was a White House Fellow nominee in 1994, which she declined because of familial commitments. In 1997, Sandi was awarded the San Diego Business Journal’s Women Who Mean Business Award. She has been the Head Coach for the Sacred Heart Varsity Softball Team, Science Fair Judge, Manager/Chaperone for Navajo All Stars Softball, Fontbonne Parent at the Academy of Our Lady of Peace (AOLP) and a Girl Scout Troop Leader and Urban Campout Volunteer. In 2010, she was the Parents Program Chair for “Wow! That’s Engineering!” She is a member of MANA de San Diego. Sandi currently serves on the Boards of Expanding Your Horizons, as Student Liaison and Co-Chair for the E-NEW Banquet committee, Director of Communications for SHPE SD, Co-Director for Outreach for SWE SD and as the Professional Advisor to the Jr. SHPE Chapter at AOLP.

Sandi credits her parents, who taught her by example how to “pay it forward”. She is grateful to her friends who endure her unbridled enthusiasm and deliberate candor, her husband for his unfailing, indelible support and their daughters, Victoria and Annamarie, who serve as a constant reminder to do small things with great love. The San Diego engineering community recognizes Sandi Wong McKellips’ years of selfless outstanding service to others.

### **HP Inkjet Web Press**

**HP Imaging and Printing Group  
HP Inkjet High-speed Production Solutions Division**

The award recognizes an outstanding engineering project in the SD area that benefits the public. (SDCEC)

The HP Color Inkjet Web Press, designed and built at HP’s San Diego site, was publicly demonstrated as a prototype in 2008 at DRUPA, a printing and imaging tradeshow that attracts over 150,000 industry professionals. This press concept was productized the following year and started a transformation in high-volume commercial printing for applications such as direct marketing and publishing. Its innovative digital capabilities make printing of short-run, high-quality books and personalized or custom marketing materials much less expensive and eliminate waste from over-runs and setup typical with offset (analog) printing. Publishers can order smaller runs, and get book shipments in days instead of weeks. They can dramatically reduce inventory, shipment costs for unused books and accounting costs. The original web press design is 80 feet long and prints on 30” wide rolls at 400 feet per minute. The San Diego development team introduced a second significant design in 2011, the T200 Inkjet Web Press, that is much smaller, less expensive and more energy efficient as described below.

The HP T200 series press handles webs up to 22 inches (558.6-mm) wide with a 20.5-inch (520.7-mm) print zone and an open architecture that is designed to integrate with existing production environments including 2-up workflow, off-line, near-line, or dedicated in-line finishing equipment. These presses provide fast duplex printing at a native resolution of 1,200 nozzles per inch and at speeds up to 200 feet/min (61 m/min) in color and up to 400 feet/min (122 m/min) in black with a space-efficient design that’s easy to maintain.

The web press uses HP pigment inks in black, cyan, magenta and yellow. A colorless Bonding Agent is applied in-press for high print quality with high black optical density and excellent color saturation on uncoated papers (including standard uncoated offset papers). ColorPRO papers offer visibly enhanced print quality compared to standard uncoated offset papers, and papers with HP high-speed coating technology deliver the highest-quality output at full press speed. The San Diego engineering community recognizes the HP Inkjet Web Press as an outstanding technical achievement.

## KEYNOTE ADDRESS

### *Rocketdyne Engines to Outer Space*

**John Halchak**  
**Pratt & Whitney Rocketdyne**  
**United Technologies Corporation**

John Halchak joined Rocketdyne in July 1962, at the beginning of the race for the Moon. He is now a Senior Fellow at Pratt & Whitney Rocketdyne, a part of United Technologies Corporation, in Canoga Park, California. Prior to this, he was the director of the Rocketdyne Materials & Processes Department for 13 years. With over 49 years of experience in rocket engines, he has worked on virtually every major program for that company, including such programs as the Atlas, Gemini, Saturn V, Apollo, Minuteman, Delta, Peacekeeper, Space Shuttle, Aerospike, NASP, RS-68, X-33, MB-60, and J-2X programs. During this time he has been a witness to, and participant in, many of the historical events in the space program, and has had opportunities to accumulate information from many of the pioneers in rocket development, including some of the original German Peenemunde engineers. This talk will present the history of Rocketdyne rocket engines

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## ACKNOWLEDGEMENTS

We would like to offer a special thank you to the University of San Diego, Joan B. Kroc Institute for Peace & Justice and USD Catering for banquet event planning assistance. <http://peace.sandiego.edu/>

We would like to offer a special thank you to the members of the Academy of Our Lady of Peace, Society of Hispanic Professional Engineers (SHPE) Jr. Chapter, for their assistance with this evening's registration and reception.

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## BANQUET TABLE PATRONS

- SD Societies: ASCE, ASHRAE, ASME, CSPE, IEEE, INCOSE, SAME, SEAOSD, SME, SWE, ASM, NSBE, SHPE
- Universities: USD, UCSD, SDSU, San Diego City College

**San Diego County Engineering Council (SDCEC):** Official supporters of the annual NEW SD Activities: AFCEA, AIAA\*, AICHe, ANS, ASHRAE\*, ASCE\*, ASM\*, ASME\*, ASQ, CELSOC, CSI, CSPE\*, IEEE\*, IESNA, IIE, INCOSE\*, SAMPE, SME\*, AND SWE\*. The Chair is ASME\*. The Secretariat is CSPE\*. See: [www.new-sandiego.org](http://www.new-sandiego.org) for more information.

(\*Indicates those currently involved in NEW SD 2012)

**EVENT SPONSORSHIP:** The following organizations have contributed to the success of the National Engineers Week in San Diego with special projects or other assistance:

- **Engineering Day at the Mall**, sponsored by ASCE/YMF, on Saturday, February 25, 2012 at the Grossmont Center Mall, 10:00 AM – 3:00 pm. <http://www.grossmontcenter.com/events.html>
- **MATHCOUNTS** San Diego Competition: February 25, 2012, at the University of San Diego, co-sponsored by CSPE (Chair), and other San Diego engineering societies. For current information see: <http://www.mathcounts-ca.org/sandiego.htm>



## Dinner Menu

*Soda, Beer, Wine, or Water served at check-in*

*Choice of Entree: Chicken, Grilled Salmon, or Vegetarian Dish*

*Salad*

*Rolls & Butter*

*Seasonal Fresh Vegetables*

*Chef's Choice of a Starch*

*Dessert*

***Served with***

*Freshly Brewed Coffee, Iced Tea, or Decaffeinated Coffee*

