## 2 0 1 4 Asian American Engineer of the Year Award

#### March 1, 2014

http://AAEOY.ORG

**2014 National Engineers Week** Hosted by Chinese Institute of Engineers/USA



# TAKE IT TO THE MAX PROBABLE ROLLING

Together, we set higher standards in aerospace every day. Join Boeing and take our industry – and your career – to the next level.

Boeing is proud to recognize our team members who are being honored at the 2014 Asian American Engineer of the Year Awards: Lance Hidano, Dr. Weidong Song, and Dr. Shanying Zeng.



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#### Asian American Engineer of the Year Award March 1, 2014 Hosted by CIE/USA



#### Program

#### February 28, 2014, Friday

7:00-8:30pm Get acquainted dinner for award winners

#### March 1, 2014, Saturday

9:00am	Tour of Google Campus
1:00pm	Technical Seminars
4:00pm	VIP Reception to award winners, family, sponsors, and guests
5:20pm	Entrance of guests to banquet hall
5:40pm	Welcome the award winners
5:45pm	Presentation of Colors
5:50pm	National Anthem
5:55pm	Remarks by the AAEOY Executive Chair
	Remarks by the CIE-USA National Council Chair
	Acknowledgement of Congratulatory Letters
6:00pm	Dinner
6:40pm	Keynote speech #1
6:50pm	Presentation of Awards – Part I
7:20pm	The Distinguished Science and Technology Award
7:35pm	
-	Presentation of Awards – Part II
8:05pm	Presentation of Awards – Part II Keynote Speech #2
8:05pm 8:20pm	Presentation of Awards – Part II Keynote Speech #2 Presentation of Awards – Part III
8:05pm 8:20pm 8:50pm	Presentation of Awards – Part II Keynote Speech #2 Presentation of Awards – Part III The Distinguished Lifetime Achievement Award
8:05pm 8:20pm 8:50pm 9:05pm	Presentation of Awards – Part II Keynote Speech #2 Presentation of Awards – Part III The Distinguished Lifetime Achievement Award Presentation of Awards – Part IV
8:05pm 8:20pm 8:50pm 9:05pm 9:35pm	Presentation of Awards – Part II Keynote Speech #2 Presentation of Awards – Part III The Distinguished Lifetime Achievement Award Presentation of Awards – Part IV Announcement of the 2015 AAEOY
8:05pm 8:20pm 8:50pm 9:05pm 9:35pm 9:40pm	Presentation of Awards – Part II Keynote Speech #2 Presentation of Awards – Part III The Distinguished Lifetime Achievement Award Presentation of Awards – Part IV Announcement of the 2015 AAEOY Closing Remarks
8:05pm 8:20pm 8:50pm 9:05pm 9:35pm 9:40pm 9:45pm	Presentation of Awards – Part II Keynote Speech #2 Presentation of Awards – Part III The Distinguished Lifetime Achievement Award Presentation of Awards – Part IV Announcement of the 2015 AAEOY Closing Remarks End of Program

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Larry Wang, PhD Chairman, 2014 AAEOY Executive Committee

Engineers NS

#### Chairman, 2014 AAEOY Executive Committee

On behalf of the 2014 Asian American Engineer of the Year Award Executive Committee and many volunteers, it is my honor to welcome all the award winners, distinguished guests, and sponsors to San Francisco Bay Area for the 13th AAEOY.

This year, we have the complimentary Google Campus tour for VIP guests and award winners, technical seminars by four world class science and technology leaders, VIP reception, and the award ceremony banquet with Mr. John Chiang, California State Controller, and Dr. Paul Ching-Wu Chu, one of the first scientists to demonstrate high-temperature superconductivity.

There are 22 award winners this year. Many thanks to the Nomination Committee for handling this heavy work load and especially to the Chairman, Prof. Chenming Hu, who is also the Distinguished Lifetime Achievement Award Winner in 2011.

We also want to express our gratitude to the sponsors. This event would not have been possible without their generous support!

The 2014 AAEOY event is organized by volunteers from Chinese Institute of Engineers/ USA – San Francisco Bay Area chapter, a non-profit organization. Let us salute all the volunteers for their dedication.

Finally, let us congratulate the 22 award winners of the 2014 AAEOY!

#### Chairman, CIE/USA National Council

On behalf of the Chinese Institute of Engineers USA (CIE/USA), I am honored to welcome all of the guests, awardees, sponsors, speakers, chapter representatives of CIE/USA, and officials to the 2014 AAEOY banquet in the beautiful San Francisco Bay Area.

AAEOY has been a part of DiscoverE's National Engineers Week Program since 2002. It honors Asian American with outstanding achievements in STEM (Science, Technology, Engineering, and Mathematics). The award winners of the past 12 years include 7 Nobel Laureates and many corporate executives, managers, engineers, and researchers.

I would like to congratulate all of the awardees tonight, including the two distinguished award winners - Distinguished Science and Technology Award winner Dr. Ernest Kuh and Lifetime Achievement Award winner Mr. Sanjay Mehrotra. I would like to express our thanks for your great contribution to our society and country.

I would like to take this opportunity to express my deep appreciation to our corporate and individual sponsors, speakers, award winners and their coordinators, the award committee, our volunteers, and especially CIE San Francisco chapter, the host of this year's AAEOY event. I would especially like to give a big thanks to Dr. Larry Wang, the executive chairman of the 2014 AAEOY, he has contributed most of his time this past year to make this event a success.

Tonight, we have delegations from all CIE/USA chapters, including the greater New York chapter, Dallas-Fort Worth chapter, Seattle chapter, New Mexico chapter, OCEESA chapter, and the newly founded Southern California chapter. These chapters will be rotating the hosting of the AAEOY event each year. With all chapters sending strong delegates to every AAEOY event, we are confident that the AAEOY will be getting better and better each year.

Finally, I wish 2014 AAEOY a wonderful event once again!



**John Y. Xie, Ph.D.** Chairman, CIE/USA National Council

#### Letter from President Barack H. Obama

THE WHITE HOUSE WASHINGTON



February 14, 2014

I send greetings to all those observing Engineers Week 2014.

For generations, our Nation's scientists and engineers have led the world in answering big questions and solving tough problems. With restless curiosity and fidelity to facts, they develop solutions that keep America on the cutting edge of innovation. Today's engineers are using science to better our world and tackle pressing challenges of our time—from improving health and harnessing clean energy to protecting our shores and strengthening our infrastructure.

I am counting on our next generation to carry forward America's spirit of scientific discovery. We need the talent of all our young people, and I applaud efforts to introduce girls to the field of engineering. As long as today's students remain diligent and daring, creative and focused, I am confident they will foster the kind of innovation that makes a lasting difference in our country and the world.

As we celebrate Engineers Week 2014, I thank the volunteers across our country who are opening eyes, sparking imaginations, and cultivating tomorrow's leaders in engineering. And I wish our students all the best as they push themselves to dream big and reach their full potential.





Engineers A

#### Letter from Commander, U.S. Pacific Fleet Harry B. Harris



United States Pacific Fleet

18 February 2014

Dear Asian American Engineer of the Year Nominees and Awardees,

On behalf of the men and women of the U.S. Pacific Fleet, congratulations to all the engineers, executives, and professionals who are being honored during this year's event. This celebration at the culmination of National Engineers Week honors the most distinguished engineering professionals of Asian American heritage, and I am honored to add to the many who recognize your technical achievements and remarkable public service.

A special shout-out to the Chinese Institute of Engineer/USA - San Francisco Bay Area Chapter. It takes a lot of work to make an event like this successful, and I know your colleagues from around the country appreciate your efforts.

Again, congratulations on this significant milestone and best wishes for your continued success.

Sincerely,

HARRY B. HARRIS, JR. Admiral, U.S. Navy

#### Letter from Congresswomen Nancy Pelosi



Nancy Pelosi Bemocratic Leader

February 28, 2014

2014 Asian American Engineers of the Year Award Ceremony San Francisco Airport Marriott Waterfront Burlingame, California

Dear Friends:

I am delighted to welcome to the San Francisco Bay Area all those attending the 2014 Asian American Engineers of the Year Award Ceremony. I would like to thank the Chinese Institute of Engineers/USA – San Francisco Bay Area Chapter for hosting this prestigious ceremony and all those present for your leadership and work on the frontlines of science and technology to benefit the well-being of our nation.

As San Francisco's Congresswoman I am fortunate to represent a district with a thriving and prosperous Asian American community. Thank you for this opportunity to congratulate those engineering professionals being honored this evening for their significant contributions to the fields of science, technology, engineering, and mathematics. I am proud to recognize them for their leadership, technical achievements, and public service.

Best wishes for an enjoyable and productive week in our magnificent City and surrounding Bay Area.

Best Regards,

Mancy Pelver

NANCY PELOSI Democratic Leader







Engineers NS

#### Letter from Senator Dianne Feinstein



February 28, 2014

Mr. Peter Bai Chinese Institute of Engineers/USA San Francisco Bay Area Chapter CIE/USA-SF: P.O.Box 2880 Cupertino, CA 95015

Dear Friends:

It is with great pleasure that I extend my warmest regards to those attending the Asian American Engineer of the Year (AAEOY) award event. I am very sorry that my Senate schedule does not permit me to be with you on this very special occasion.

Please allow me to thank the Chinese Institute of Engineers (CIE) for its hard work and dedication in promoting communication among engineers and scientists who are interested in the well-being of the Chinese engineering community in the United States and abroad. Since the CIE was founded in 1917, it has made important contributions, particularly in the fields of science, technology, business, and government. I would like to give a special recognition to this year's AAEOY award winners: Dr. Ernest Kuh for the Distinguished Science and Technology Award, and Mr. Sanjay Mehrotra for the Distinguished Lifetime Achievement Award. Thank you for all you do.

As a United States Senator representing the people of California, I applaud all of you for your achievements, and wish you all the best in the years to come.

Sincerely, Dianne Feinstein

United States Senator

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#### Letter from Congressman Michael M. Honda





MICHAEL M. HONDA 17TH DISTRICT, CALIFORNIA

#### Greetings from Congressman Michael M. Honda to the Chinese Institute of Engineers on the Occasion of the Asian American Engineer of the Year Award Ceremony

#### March 1, 2014

It gives me great pleasure to welcome everyone to the American Engineer of the Year Award Ceremony hosted by the Chinese Institute of Engineers.

Since 1917, the Chinese Institute of Engineers (CIE) has worked as a nonprofit organization to advance Science, Technology, Engineering, and Mathematics (STEM) across the United States. CIE achieves its goals by hosting annual award ceremonies like the Asian American Engineer of the Year Award Ceremony to nationally recognize and promote Asian and Pacific Islander American leaders.

The Asian American Engineer of the Year Award Ceremony is held annually to honor technological, management, and research achievements of the Asian American community as well as those working in STEM and leadership professions. Individuals are nominated from the community by government, business, and educational institutions. Today's event recognizes and encourages these contributions by presenting members of its community with various awards.

On behalf of the residents of the 17th Congressional District, I thank the Chinese Institute of Engineers for organizing today's event and offer my best wishes for its success.

Sincerely, Mulles

Michael M. Honda Member of Congress

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#### Letter from Congress Women JUDY CHU



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#### Letter from Congresswomen Doris Matsui



#### HOUSE OF REPRESENTATIVES WASHINGTON, D. C. 20515

DORIS O. MATSUI 6TH DISTRICT, CALIFORNIA

March 1, 2014



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Dear Friends,

It gives me great pleasure to welcome you to the 13<sup>th</sup> annual Asian American Engineer of the Year (AAEOY) award ceremony hosted by the Chinese Institute of Engineers/USA San Francisco Bay Area Chapter.

As the culmination of National Engineers Week, the AAEOY awards recognize the leadership and contributions of outstanding Asian-American professionals in the fields of science, technology, engineering and mathematics. Congratulations to Dr. Ernest Kuh for receiving the Distinguished Science and Technology Award and to Mr. Sanjay Mehrotra for receiving the Distinguished Lifetime Achievement Award. They, along with the other award winners, are to be honored for their leadership, technical achievements and public service.

I would also like to acknowledge all in attendance, as well as the industry leaders, national laboratories, academia, government agencies and prominent US companies who continue to support the field of STEM and to promote the Asian-American culture.

Best wishes for a wonderful event.

DORIS O. MATSUI Member of Congress

#### Award Banquet Keynote Speaker





Paul C. W. Chu University President

Doctor C.W. "Paul" Chu is professor of Physics, director of the Texas Center for Superconductivity, and the T.L.L. Temple Chair of Science at the University of Houston. He serves as Honorary Chancellor of the Taiwan Comprehensive University System and was the President of the Hong Kong University of Science and Technology from 2001 to 2009. He also served as consultant and visiting staff member at Bell Labs, Los Alamos National Lab, the Marshall Space Flight Center, Argonne National Lab, and DuPont at various times.

Doctor Chu was born in Hunan, China, and received the B.S. degree from Cheng-Kung University in Taiwan. After service with the Nationalist Chinese Air Force, he earned the M.S. degree from Fordham University, Bronx NY, and completed the Ph.D. degree at the University of California at San Diego, all three degrees in Physics.

He and his colleagues achieved stable superconductivity at 93 K (-180) above the critical temperature of liquid nitrogen (-196), a major advancement in modern science. Later, they again obtained stable superconductivity at a new record high temperature of 164 K (-109) in another compound when it was compressed. His current research activities extend beyond superconductivity to magnetism and dielectrics. His work has resulted in the publication of more than 590 papers in refereed journals.

Doctor Chu, a Fellow of the American Academy of Arts and Sciences, belongs to a host of national and international societies and organizations. He has received numerous awards and honors for his research, including the National Medal of Science and the Comstock Prize in Physics in 1988, and the American Physical Society's International Prize for New Materials. He was an invited contributor to the White House National Millennium Time Capsule at the National Archives in 2000 and was selected the Best Researcher in the U.S. by US News and World Report in 1990.





#### John Chiang

California State Controller

John Chiang was first elected in November 2006 to serve as Controller of the State of California, the ninth-largest economy in the world. He was elected to serve a second term in November 2010.

Since taking office in January 2007, Controller Chiang took immediate action to make the State's finances more transparent and accountable to the public and to weed out waste, fraud and abuse of public funds. The Controller's aggressive audits have identified more than \$6 billion



**Special Guest** 

in taxpayer dollars that were denied, overpaid, subject to collection, or resulted in revenues, savings and cost avoidance.

As Controller during the worst economic downturn since the Great Depression, Chiang was forced to delay payments and issue IOUs in order to preserve cash to meet obligations to education and bond holders. His cash management was cited by rating agencies as a benefit to the State. Fitch Ratings lauded the Controller for using "several strategies, including payment deferrals and IOUs, to ensure continuation of priority payments." Standard & Poor's said the Controller's "extraordinary cash management maneuvers" protected the state's priority payments, and California Municipal Bond Advisor noted, "State Controller Chiang has been a hero of sorts to us during California's recent distress because he did just what he was supposed to do to protect bondholders."

He has led efforts to reform the State's public pension systems, helped local governments navigate difficult economic times, protected California's precious natural resources, reunited rightful owners with \$2.7 billion in unclaimed cash and 181 million shares of stocks and securities that had been lost or forgotten, and launched financial and tax assistance seminars for California's working families, seniors, small businesses and non-profit organizations.

Controller Chiang has received numerous awards for his leadership and public service, including the 2007 California Association of School Board Officer's Honor Roll Award; the 2009 Jewish Labor Committee Max Mont Mensch Award; the Pat Brown Institute's 2010 Public Servant of the Year; the 2010 Crystal Eagle Award from Coro Southern California; the 2011 Marvin Greene Award from the Los Angeles County Bar Association Business and Corporations Law Section; and in February 2011, he received the Association of Government Accountants William R. Snodgrass Distinguished Leadership Award for improving financial management practices and consistently exhibiting the highest personal and professional standards.

Chiang and his wife, Terry Chi, live in Torrance, California.



Distinguished Science and Technology Award





Ernest S. Kuh U.C. Berkeley

For his innovation in circuit theory, world-renowned pioneer for Electronic Design Automation (EDA) industry, and decades of service to academia, science, industry, and development in Asia.

Ernest S. Kuh was born on October 2nd, 1928 in Beijing, China. He attended Shanghai Jiao TongUniversity from 1945 to 1947; received the B.S. degree from the University of Michigan in 1949; the S.M. degree from the Massachusetts Institute of Technology in

1950; the Ph.D. degree from Stanford University in 1952. From 1952 to 1956 he was a member of the Technical Staff at Bell Telephone Laboratories in Murray Hill, New Jersey. He joined the EECS Department faculty in 1956. From 1968 to 1972 he served as chair of the department; from 1973 to 1980 he served as Dean of the College of Engineering. He retired in 1993, and now holds the title of Professor in the Graduate School at Berkeley.

Professor Kuh has worked on Electric Circuit Theory and Computer-Aided Design for VLSI Circuits and Systems. He is coauthor of four books and author or coauthor of over 200 papers in circuits, electronics, networks, systems, and computer aided design. He also has edited and coedited two monographs: "VLSI: Circuit Layout Theory and Techniques" and "Multichip Modules."

His important contributions in circuit theory include synthesis of passive and active networks, optimum design of negative resistance and parametric amplifiers, state-space techniques in networks and feedback systems, time-varying networks, and nonlinear circuits.

He has made great contributions to circuit layout theory and algorithms in partitioning, floorplanning, placement and routing. Software packages developed by his research group include BBL, BEAR, and PROUD made significant impact on EDA industries and academic researchers.

Professor Kuh is a member of the National Academy of Engineering, the Academia Sinica, and a foreign member of the Chinese Academy of Sciences. He is a Fellow of IEEE and AAAS. He has received numerous awards and honors, including theIEEE Education Medal, the Lamme Award of the American Society for Engineering Education, the IEEE Centennial Medal, the IEEE Circuits and Systems Society Award, the 1996 C&C Prize Japan Society for Promotion of Communication and Computers, the 1998 EDAC Phil Kaufman Award, and the IEEE Millennium Medal.





#### Life Time Achievement Award

#### Sanjay Mehrotra

Sandisk

Mr. Mehrotra is Co-Founder, President and Chief Executive Officer of SanDisk Corporation, a global leader in flash memory storage solutions, and a Fortune 500 and S&P 500 company.

Prior to becoming president and CEO in 2011, Mr. Mehrotra served as SanDisk's President and Chief Operating Officer starting in 2006. He currently serves on SanDisk's Board of Directors, a position he's held since 2010. Under his guidance, the company has expanded its focus to include solid state drive (SSD) solutions for the enterprise, as well as new growth strategies for the mobile and client computing segments, established and emerging retail markets, and investments into NAND scaling and post-NAND technologies.

Since helping co-found SanDisk in 1988, Mr. Mehrotra has also served as its Executive Vice President and Chief Operating Officer, Senior Vice President of Engineering, Vice President of Product Development, and Director of Memory Design and Product Engineering.

Mr. Mehrotra earned his Bachelor's and Master's degrees in Electrical Engineering and Computer Sciences from the University of California, Berkeley, and is a graduate of the Stanford Graduate School of Business Executive Program (SEP). In addition to SanDisk, he serves on the Board of Directors of Cavium, Inc. and the Global Semiconductor Alliance, the Engineering Advisory Board at UC Berkeley, and the Stanford Graduate School of Business Advisory Council. Mr. Mehrotra holds more than 70 patents and has published articles in the area of non-volatile memory design and flash memory systems. His recognitions include receiving the 2013 Outstanding Alumni Award in Electrical Engineering from the University of California, Berkeley, and being a joint recipient of the 2006 IEEE Reynold B. Johnson Information Storage Device Technology Award.







Engineers N

Sanjay K Mehta Navy

Dr. Sanjay K. Mehta is a senior electrical engineer and technical program manager, specializing in signal processing, in the Sensors and Sonar Systems Department at the Naval Undersea Warfare Center Division, Newport. He has been a technical/ scientific leader and key contributor in the areas of active and passive Anti-Submarine Warfare (ASW), Surface Ship Torpedo Defense (SSTD)., and Weapons Guidance and Control. He holds a B.S.,

M.S., and Ph.D. in Electrical Engineering from the University of Rochester.

Dr. Mehta is currently lead for the Target Acquisition Group (TAG) subsystem of the Torpedo Warning System (TWS). TWS is a Surface Ship active-passive torpedo detection, classification, and localization (DCL) system that provides automatic alerts and targeting solution against incoming weapons. The TAG subsystem consists of all wet and hardware, all electronics and power supply cabinets, and DCL processing.

Dr. Mehta was the technical/scientific lead for the Counter Torpedo DCL (CTDCL) project sponsored by the Lottoral ASW Future Naval Capacity (FNC) and Platform Protection FNC Office of Naval Research (ONR) programs. He was responsible for the development of an active and passive baseline processing string for automatic Torpedo DCL system. The project culminated in an at-sea demonstration of the automatic DCL system against complex salvoes of four incoming weapons. Responsibility also included identifying the shortfalls of the ONR system and developing and transitioning advanced sensors and processing algorithms to the Department of the Navy Undersea Defensive Warfare System program Office for the TWS.

Dr. Mehta was principal investigator for the Homing System task for the High-Speed Supercavitating Weapon program. His efforts were critical in demonstrating the feasibility of high-speed homing. His research efforts led to the design of an array-cone cavitator and a corresponding Homing Simulation System.

Dr. Mehta has extensive experience working on multinational SSTD programs and is a recognized expert in his field.



#### Raj Tanwar Lockheed Martin

Born in a small town from India into a farming heritage family with seven brothers and sisters, Raj Tanwar earned a B.Sc and M.Sc in Organic Chemistry, from Meerut University, Meerut, India. She moved to the United States in 1983 and became a citizen in 1988. Upon arrival to the United States she continued to pursue her higher education dream and started family. Despite many challenges such as English as second language and cultural environment, she was admitted in the SUNY, Buffalo in Department of Computer Science, a very competitive



field, and started her second B.S. Degree. She completed her degree with a nomination in "Who's Who Among Students in American Universities & Colleges 1986 edition" based on her high Grade Point Average. Raj continued her pursuit of higher education with a Masters in Computer Science with a full Teaching Assistant scholarship which she completed in 1989 from SUNY, Utica. Raj is the first female in her extended family to receive college degrees in Math and Science.

Raj Tanwar is a subject matter expert in Command & Control (C2) systems at the Lockheed Martin Mission Systems and Training (MST) division dedicated to the Navy's Aegis Combat System and Submarines Underwater System product lines. She has over 24 years of Systems and Software Engineering experience supporting foreign and domestic programs for Seawolf and Aegis Combat Systems. Throughout her career at Lockheed Martin, Raj has led over 200 people and her teams have always met or exceeded their schedule and cost constraints while achieving all technical requirements for the programs. She has been engaged in all aspects of programs from product inception to program delivery. She has been recognized for her technical and leadership excellence through nine individual and team Recognition Awards.

Raj Tanwar is very active in the community in the United States and India. In India she gave back to her district by providing funds to build and maintain a computer lab and associated computer equipment at the RamChandri Devi Khazan Singh Verma Girls Inter College in the village of Pisawa, reaching over 500 girls from 1st through the 12th grade. In the United States, she is a life time member of the North American Jat Charities (NAJC) Non-Profit Organization which raises funds for Disaster Relief support in United States and India and provides scholarships to students in India for tuition and living assistance to 25 under-privileged. She is an active and original member of the Asian Heritage Association employee resource group (formerly known as affinity group) that provides networking, outreach and professional development opportunities for Lockheed Martin employees. She also actively supports the efforts of the Society of Women Engineers for outreach activities with the local middle and high schools. Raj is a mother of two young professionals and has been married to an engineer for 35 years. She would like to thank them for all of their support and encouragement.



Most Promising Engineer of the Year Award





#### Weidong Song Boeing

Dr. Weidong Song grew up in a small village in northern China where harsh working conditions were part of daily life. As a young boy, Song dreamed of designing and building machines that would free people from tedious, labor-intensive jobs such as plowing a field by hand. This dream inspired Song to become an engineer. Dr. Song is a composite materials project engineer for the Innovation Center at Boeing Commercial Airplanes in Seattle where he oversees development and implementation of new composite materials for the next-generation of commercial airplanes.

A prolific innovator, Song is inventor of the Ultrasonically-Aided Electrospraying (UAE) method for producing monodisperse nanoparticles. His work represents a major breakthrough in producing and dispersing nanoparticles of uniform size, which has applications in the production of nanoparticle-enhanced composite materials, durable functional coatings, high specific-impulse space thrusters and nanoparticle 3D printing. Dr. Song holds three patents in the area of nanoparticle technology and electric space propulsion.

Dr. Song was chosen as one of the nation's brightest young engineers and invited to the 2013 National Academy of Engineering's 19th U.S. Frontiers of Engineering Symposium. He also was asked to co-chair the 2014 European Union-United States Frontiers of Engineering Symposium. In 2012, Song was named Engineer of the Year by Boeing Commercial Airplanes for outstanding contributions.





#### Linh Dang Northrop Grumman

Linh Dang and her family immigrated to the US as refugees in 1988. Linh started school in the 6th grade, unable to read or write. Self taught by borrowing books from the library, Linh caught up to the appropriate reading level on her own and worked her way to receive a BS degree in Chemical Engineering from UCLA. Linh joined Northrop Grumman after graduating in 2000 and since that time has been awarded two fellowships. Linh earned a MS degree in Material Science & Engineering in 2003 and an MBA from the UCLA Anderson School of Management in 2010.

While working in the Microelectronics Center at Northrop Grumman, Linh led a team that developed some of the key fabrication processes used in Northrop Grumman's most advanced InP High Electron Mobility Transistor technology. This technology was recognized in 2007 by the Guinness World Records as the world's fastest transistor technology.

Today Linh leads over 25 engineers and technicians to produce electronic modules for space and airborne applications. Linh has doubled the automated line capacity and reduced span time by 30% with 25% less rework. Ms. Dang has recently been selected as the electronic area lead for the creation of a new avionic lab that will be used to build low-cost phased arrays for a variety of airborne systems.

In recognition as a technical innovator, Linh has received two Northrop Grumman Distinguished Invention Awards, a NASA Tech Brief Award, three US patents, and is a key contributor to multiple trade secrets. She has authored or co-authored more than ten peer reviewed articles and papers.

At UCLA Linh served as president of the American Institute of Chemical Engineers and co-founded the Grassroots Project. The project enlisted engineering students to present and host demonstrations for underprivileged children at elementary schools. Linh also volunteers at the Iridescent Learning Organization where she leads the development of projects that teach fundamental concepts in science and engineering to students.



Engineers /





Matthew N. Lee Army

Matthew Lee is the Chief of the Engineering and Integration Division of the Command and Control Solutions Directorate, CECOM, Software Engineering Center (SEC). He leads all the APG Post Production Software Support (PPSS) efforts for the command and control systems supporting Program Manager (PM) Mission Command and PM Joint Battle Command – Platform. These PPSS efforts supporting over 150,000 fielded systems and supporting across Joint Services for Soldier and Civilian around the world. These strategic, tactical,

and business programs have been most effectively used to support conflicts in theater. He has established and maintaining the lab network infrastructure for the Directorate supporting all sustainment and development lab activities. He manages an annual budget in excess of \$20 million. Some of his workforces provide matrix engineering and acquisition support to Program Executive Offices and their representative PMs.

He led CECOM's efforts in the initial selection and establishment of the Unified Lab for Tactical Radio - Army (ULTRA). He was representing CECOM in the meetings and discussions to the selection of ULTRA and led to the lab's ribbon-cutting ceremony on 7 January 2013.

Prior to his current position, Mr. Matthew Lee was acting CERDEC Software Engineering Directorate Chief for the Satellite Systems Branch in support of SEC, Communications Directorate, from November 2005 to May 2006. He led CECOM's efforts to provide satellite communications software engineering products and services throughout the Army and the Department of Defense, supporting over many satellite systems and services in various stages of the system life cycle. From 1998 through May 2006, Mr. Matthew Lee served as a project leader on several tactical systems. He served as project leader for Electronic Key Management System with over \$15 million annual budget that supports the Navy, Air Force and Army CIO G6 in COMSEC Keys management and reconciliation efforts.

Mr. Matthew Lee received a Bachelor of Science degree in Electrical Engineering from the Drexel University, Philadelphia, PA in 1995 and a Master of Science degree in Software Engineering at Monmouth University in 1997. He has completed the Civilian Education Systems Advanced course and the Army Office of Personnel Management Aberdeen Proving Ground Senior Leader Cohort 2 program in 2011.





#### Chyau Shen Navy

Mr. Shen is the Director of the Special Surveillance Programs, Naval Air Systems Command. In this role, he is the technical manager for advanced concepts and directs rapid response technology insertion, and remote surveillance projects for Department of Defense (DoD). Mr. Shen has a wide technical background and technical expertise in remote sensors, navigation architecture, laser radar and reconnaissance/surveillance.



Mr. Shen has developed a number of rapid response solutions to urgent Defense Department intelligence and surveillance needs. He develops the system architecture and directs the integration of advanced technologies into "game changer" yet affordable systems. These systems were quickly adapted, tested, and rapidly deployed to combat zones to support US and Coalition forces. After fielding, Mr. Shen implements spiral developments to continue system enhancements. Mr. Shen executes programs for the Navy, the Office of the Secretary of Defense, U.S. Special Operations Command, Army Intelligence, and the Joint Improvised Explosive Device Defeat Organization.

Mr. Shen's recent accomplishments include the development and fielding of the Persistent Ground Surveillance System (PGSS) and multi-Intel tactical UAV. Both programs address urgent requirements from DoD to rapidly field advanced systems to combat areas. These new rapidly fielded system increases force protection and provides a more complete surveillance picture through development and/or integration of information from new sensors and processing systems. The PGSS program was the first Joint Capability Technology Demonstration ever to start, demonstrate, assess, and field in less than one year.

Mr. Shen immigrated to the US from Taiwan when he was 14. He is a graduate from the University of Pennsylvania (B.S.E.E.) and Columbia University (M.S.E.E.).

Mr. Shen has published numerous technical papers and his Advanced Concept Technology Demonstrations (ACTD) team was awarded the "2003 ACTD Team of the Year" by the Deputy Under Secretary of Defense for Advanced Systems and Concepts. In 2007, Mr. Shen received the National Tibbett's Award for his outstanding contributions to the Small Business Innovation Research Program. The Navy presented Mr. Shen and his team with the 2012 Acquisition Excellence Award.







#### Ruchir Puri IBM

Kuchir Puri is an IBM Fellow at IBM Thomas J Watson Research Center, Yorktown Heights, NY where he leads high performance design and methodology solutions for all of IBM's enterprise server and system chip designs. Most recently, he led the design methodology innovations for IBM's latest Power8 and zEnterprise microprocessors and is currently leading design methodology research efforts on future processors. Dr. Puri has received numerous accolades including the highest technical position at IBM, the IBM Fel-

low, which was awarded for his transformational role in microprocessor design methodology. He is a member of IBM Academy of Technology and is an IBM Master Inventor. In addition, he has received "Best of IBM" awards in both 2011 and 2012 and IBM Corporate Award from IBM's CEO, and several IBM Outstanding Technical & Innovation Achievement awards.

In 2007, Dr. Ruchir Puri was elected as Fellow of the IEEE for pioneering contributions to automated logic and physical design of electronic circuits. He is also an ACM Distinguished Speaker and has been an IEEE Distinguished Lecturer. Dr. Puri is a recipient of Semiconductor Research Corporation (SRC) Mehboob Khan outstanding mentor award and has been an adjunct professor at Dept. of Electrical Engineering, Columbia University, NY. In 2011, he was honored with John Von-Neumann Chair at Institute of Discrete Mathematics at Bonn University, Germany for his scientific contributions and its impact on broader society. He has delivered numerous keynotes and invited talks at major VLSI Design and Automation conferences, National Science Foundation and US Department of Defense Research panels and has been an editor of IEEE Transactions on Circuits and Systems. Ruchir is an inventor of over 50 U.S. patents (both issued and pending) and has authored over 120 publications on the automated design of low-power and high-performance circuits with several Best Paper awards. He received a Bachelor degree in Electronics & Communication Engineering from National Institute of Technology, Kurukshetra, India in 1988, a Masters degree in Electrical Engineering from Indian Institute of Technology, Kanpur, India in 1990, and a Ph.D degree in Electrical & Computer Engineering from University of Calgary, Alberta, Canada in 1994.

Ruchir is very passionate about technology education (STEM) among school children and has been evangelizing fun with electronics and FIRST Robotics League in community schools. As a robotics coach, he considers the New York state championship win of his first timer 6th grade middle school team to reach 2013 FIRST Robotics world championship, one of the most treasured moments.





Jin Zhao Texas Instruments

Dr. Jin Zhao was born in Chengdu, China and spent most of his young life in Beijing. He came to the United States in 1994 for graduate study at State University of New York (SUNY) at Buffalo. Jin earned his Ph.D. in analytical chemistry from SUNY at Buffalo in 1998. In 2006, he earned an MBA from the University of Texas at Dallas. He is the co-author of twelve U.S. patents.



From 1998 to 2001, Jin worked at Advanced Micro Devices. In 2001, he joined Texas Instruments where he is now working as a product line manager focused on integrated protection devices for personal electronic, industrial and automotive applications. In this role, Jin develops innovative protection devices that protect every interface in a customer's system. He is also responsible for new business opportunity engagement and product development execution, along with the product line's financial performance.

Before taking on his current role, Jin managed a Texas Instruments product line focused on application specific power management products. As an industry leader, Jin led his team to introduce a large product portfolio of integrated power management integrated circuits for line connected devices, such as set top boxes, digital TVs and surveillance equipment, which improved the customer's system power efficiency, shrank the board size and reduced cost.

Under Jin's leadership, Texas Instruments also released a leading power management integrated circuit for flow meter and energy harvesting applications that significantly extends battery life and provides energy saving benefits.

In addition to his many professional achievements, Jin is a strong supporter of young engineers and new college graduates. He mentors young engineers, many of whom have graduated from universities within the last three years and are starting their engineering careers at Texas Instruments.

Jin is an active sponsor of Texas Instruments' employee diversity initiatives. He served as chair of Texas Instruments' Chinese Initiative in 2007, and has been serving as an initiative advisor since 2008. He is also a longtime supporter of the United Way as a Leadership Giver and has organized fundraising events for the Juvenile Diabetes Research Foundation (JDRF).

Jin is married and is the father of two children. In his spare time, he enjoys travelling, skiing and listening to music.







Ye-Chen Pan General Motors

Dr. Ye-Chen Pan is the Global Simulation Owner for Multi-disciplinary Optimization (MDO) in Safety and Electrification CAE; a Computer Aided Engineering (CAE) team in Advanced Vehicle Development (AVD). He is responsible for strategy setting and process development to optimize vehicle structural mass while, at the same time, balance performance requirements from multi-disciplinary point of view, such as frontal/ side/ rear crashworthiness, vehicle body

normal modes, vehicle body global torsional stiffness, noise and vibration, etc.

Dr. Pan holds an M.S. and Ph.D. degree in Mechanical Engineering from University of Michigan, Ann Arbor. He graduated from National Tsinghua University, Taiwan in 1980 with a Bachelor degree.

Dr. Pan has held other leadership positions within GM prior to his current position. While with Safety Integration organization, Dr. Pan led the Safety Integration team to improve the overall safety performance of 1998 minivan program. Later, he was appointed supervisor for the Safety Simulation group at GM OPEL responsible for CAE methodology development, global standardization and simulation activities for Epsilon program. After repatriation Dr. Pan served as a Chairman for the GM Side Impact Quality Improvement Team. With his strong safety crash CAE background, Dr. Pan has given GM a competitive advantage by developing critical CAE methods and standard work, as well as modeling and simulations guidelines for various crashworthiness safety load cases. He has also received GM's tool and method awards for engine and tire modeling methodologies. In 2009, he implemented the full vehicle MDO process in GM and established it as a standard work in AVD, which resulted in vehicle mass savings for many GM vehicle programs. Dr. Pan has trained as well as mentored many new GM safety crash CAE engineers from around the globe with great success. In short, Dr. Pan's achievements have helped GM produce some of the safest vehicles on the road today and, thanks to his continued guidance, the next generation of CAE engineers will be ready to make their own contributions to the safety of our future vehicles. He continues to serve as a one of the top CAE technical experts in both Safety CAE and all other CAE communities, as he continues to advance safety crash simulation technology and MDO process.





#### Executive of the Year Award

#### Geeth Chettiar

Lockeed Martin

Geeth Chettiar is a director within Lockheed Martin Aeronautics. She has been with Lockheed Martin 23 years. She currently runs a large organization responsible for Software Excellence within Aeronautics covering all of their fighter jets, carriers and advanced programs. She is also responsible for the Lockheed Martin Product Lifecycle Management system, AeroSource, strategy and implementation which allows for the more efficient aircraft engineering and manufacturing changes.



Geeth is a sought after leader with a broad experience base, as she has had roles covering most of the Lockheed Martin business areas, including Information Systems and Global Solutions, Space Systems, LM Corporate, and Aeronautics. She has contributed in numerous domains – Program Management, Systems Engineering, Software Systems, Business Development, Human Resources, and Program Capture. Additionally she is experienced with products in Satellite Space systems, Ground Systems, Intelligence Applications Systems, and Aircraft. Geeth exemplifies the leadership abilities Lockheed Martin looks for with her ability to support new business areas, learn quickly, think innovatively, and her ability to bring together diverse teams of employees, vendors, partners and customers to produce results. Geeth demonstrates her desire to help colleagues grow in their own careers, and she encourages diversity in the workplace through numerous engagement activities. She is actively involved in mentoring and growing the leadership at Lockheed Martin, as well as promoting diversity & inclusion through thought leadership and action.

Additionally, she mentors numerous Asian employees in roundtable mentoring sessions. Geeth also shows her passion for supporting the personal and professional growth of others through her community outreach. She has been on the board of various STEM-related organizations promoting engineering.

Geeth serves on the advisory board of the College of Engineering at University of Texas at Arlington. Additionally, she has served on the board of an Asian Battered Women's organization where she was also a case advisor. She is an active volunteer and financial contributor to the Young Women Christian Association (YWCA) of Fort Worth, Texas.







Engineers N

#### Anh N Vu Navy

Mr. Vu is a native of Vietnam where his family left on the eve of the Fall of Saigon in 1975 and settled in Harrisburg, PA six months later. While learning English, he earned a Bachelors of Science degree in Electrical Engineering from Pennsylvania State University in 1984 and is a 1994 graduate of the Navy's Test Pilot School.

Mr. Vu began his career in 1984 in the Antennas and Avionics Branch at the Naval Air Test Center. He quickly became an expert

in test and evaluation (T&E) of communication systems to include the Joint Tactical Information Distribution System, V-22 communication systems, the Multi-Information Distribution System on the F/A-18E/F, and ultimately the Communication/Navigation/Identification (CNI) Team Lead evaluating CNI equipment onboard every F/A-18 model.

In 2007, he became the Head of the Communication and Antennas T&E Branch. He revitalized the branch to twice its size to support the expansion of technology in military communication equipment.

In 2010, Mr. Vu was selected as Head of the Mission Systems T&E Division, where he leads a workforce of over 580 employees across three geographic sites to meet the Vision and Mission of the ISEET Department.

Mr. Vu is a member of International Test and Evaluation Association and the Society of Flight Test Engineers, and former member of the Institute of Electrical and Electronics Engineers. He is a private pilot and a member of the Experimental Aircraft Association where he volunteers as a Young Eagles pilot.

Mr. Vu is married and has two adopted daughters, one Korean and one Mexican. In memory of the loss of their biological daughter at the age of two, Mr. Vu and his wife are proud co-founders of Serving as Advocates for the Lost and Troubled, a non-profit organization supporting approximately 100 children in four countries with a focus to prepare misfortunate minority children for real world challenge



#### Tim Fu Siemens

im Fu leads the Siemens PLM MCAD NX Part Modeling Core software development team, a group of 18 engineers responsible for the core architecture of the NX Part Modeling application. Tim has worked for Siemens PLM developing and leading the development of NX/Unigraphics software for the past 15 years and has worked in CAD for an additional 3 years. He earned a B.S. and an M.S. in Mechanical Engineering from the Huazhong University of Science and Technology (HUST). He earned a Ph.D. in Mechanical Engineering from the New Jersey Institute of Technology (NJIT).



Tim Fu directs the development of architectural and core enhancements to the NX Part Modeling with each NX version release, the latest being NX V9. This involves directing research and experimentation, defining the need for software prototypes, and reviewing designs, algorithms and testing results to ensure state of the art efficient and effective modeling enhancements.

#### Enhancements for NX 9 under Tim Fu's direction and guidance include:

- WAVE Group Body Selection Intent: Allow the user of the NX Wave Geometry Linker to select multiple bodies (not just single bodies) when collecting geometry.
- Sketch Dimensions: Enhance the creation and editing of NX sketch dimensions while making sketch dimension functionality consistent with NX Drafting and NX PMI dimension functionality.
- Publish: Provide NX a publication concept which provides a level of indirection between the source object and the linked object – a public object.
- Delay and Update: Implement intra-module delay and update controls to reduce update times with part modules.
- 2D Layout Support: This project is to support the 2D layout requirements from the Drafting team.
- Sketch Rigid Set: Add Rigid Set constraint to the NX sketch tool box.
- Featureless Sketch Architecture: This project is to support featureless sketches for NX Drafting workflows. These projects were successfully completed with high quality, improving both NX functionality and performance for NX CAD users.

#### Volunteer contribution

- Founded the Math Club at Landell Elementary School in 2009 and acted as the Advisor and Coach for the math competition program for two years. The program continues today.
- Founded the Mathcounts Program (part of the STEM program) at Oxford Academy in 2011 and has been acting as the Advisor.
- Founded the HUST (Huazhong University of Science and Technology) Alumni Association of Southern California in 2002. It has grown up to 371 members as of today. There are engineering related activities.
- Acted as the President of Hubei Association from 2010 to 2012.



#### Executive of the Year Award





Engineers NS

Lance Hidano Boeing

Born and raised in Hawaii, Lance Hidano grew up near the sugar cane fields above Pearl Harbor. As a youngster, Hidano exhibited a real aptitude for math and science and an overwhelming urge to break things to see how they worked; he decided early on to become an engineer. His first mentors – father, uncle and high-school teacher – taught him hard work, to always "find a way," and some basic engineering and aerospace principles.

Hidano earned a bachelor's degree in civil engineering from the University of Hawaii and a master's in civil engineering from the University of Washington.

Currently, Hidano is Chief Engineer of the 737NG (Next Generation) Airplane Structures group within Boeing Commercial Airplanes where he manages more than 300 engineers responsible for structural design changes to the 737 airframe; improved tooling and equipment for a higherquality and more economical build; and working with operators and regulatory agencies to keep 4,600+ 737 airplanes flying safely. He also oversees more than 150 engineers at supplier sites in Wichita, KS, and Moscow, Russia.

Throughout his 34-year Boeing career, Hidano has led teams and contributed his engineering expertise in support of aircraft stress analysis, safety, regulatory compliance, aging airplane modifications, research and development programs, customer training and production support. Hidano is most proud of leading a multi-skilled team of 100+ engineers who, under an intense deadline, redesigned the 787-8 Wing to Body Joint that was stronger, lighter and easier to build than its predecessor.

Hidano has been on the board of directors of the Bellevue Youth Symphony Orchestra, a deputy director of the Boeing Employees Community Fund, a middle-school math competition coach, and is currently involved with the Boeing Asian American Professional Association and Special Olympics.

Hidano is married with three children and enjoys family activities, fishing and traveling.



#### Shanying Zeng Boeing

Dr. Shanying Zeng grew up in Hunan, China, quite familiar with the roar of jet engines being tested as both parents worked for an airplane engine company. Dr. Zeng has forged a career that encompasses her passions for aerospace, global technology collaboration and lifelong learning.



Dr. Zeng is a Technical Fellow and Technical focal for environmen-

tal technology portfolio at Boeing Research and Technology that focuses on hazardous material reduction consisting of 20+ projects with ~100 technologists from different organizations. One urgent task is to replace all materials in Boeing commercial and military airplanes that contain DecaBDE flame retardant, which is being phased out.

Previously, Dr. Zeng was Chief Scientist for Boeing Research & Technology China and has played a key role in forming strategic technology alliances in Europe, Russia, Ukraine and Taiwan. Dr. Zeng has been honored with many prestigious awards including the 2013 Boeing Technical Replication Award, the 2013 SAMPE Fellow, 2013 Industry Engineer of the Year Award from the Puget Sound Engineering Council, 2012 AIAA Associate Fellow, 2013 and 2006 All Star Award from Women of Color in Technology, and 2006 Boeing Technical Fellow.

She has multiple degrees in chemical engineering, polymer composites, material science and business administration.

Dr. Zeng is prolific in sharing her expertise through technical papers, keynote speeches and presentations around the world. She is a member of and served in various leadership capacities for professional organizations including the Society for the Advancement of Material and Process Engineering, Society of Chinese American Aerospace Engineers, Chinese Society of Aeronautics and Astronautics, and American Institute of Aeronautics and Astronautics. In particular, Dr. Zeng introduced the SAMPE Student Composite Bridge/Wing competition to China and Malaysia.

Dr. Zeng enjoys art and music. As a member of The Huayin Performing Arts Group, she has performed at Seattle Seafair and other local community/charitable events.



Most Promissing Engineer of the Year Award



Engineers NS

#### Richard Watanabe Navy

Mr. Richard Watanabe serves as the Division Systems Engineer in the Land Attack Department at the Naval Surface Warfare Center, Port Hueneme Division. With over 17 years of experience in the Navy Surface Combat Systems Engineering community, he is the lead systems engineer to provide technical oversight for implementing Distance Support technologies to significantly increase fleet readiness and reduce Total Ownership Costs for the Navy.

AAEO

Previously, Mr. Watanabe served as the operational manager of over 30 engineers and scientists in the Combat Systems Engineering Branch to provide systems engineering, acquisition logistics, and maintenance support for the Littoral Combat Ship, DDG-1000, and USCG National Security Cutter programs. Mr. Watanabe also served as the Combat Systems In-Service Engineering Liaison at Commander Naval Surface Forces (CNSF) where he led numerous initiatives to reduce overall sustainment costs for the Navy's Surface Fleet resulting in a combined savings of over \$50M. Prior to his assignment at CNSF, Mr. Watanabe was the project lead to establish a 60-person team on the waterfront in San Diego, CA and Norfolk, VA to support the Combat Systems upgrade efforts for the multi-billion dollar Aegis Modernization Program.

As a U.S. Air Force veteran of the 1991 Gulf War in Operation Desert Storm and Operation Provide Comfort, Mr. Watanabe supported combat operations as a Crew Chief for the HC-130P/N Combat Search and Rescue Aircraft. Mr. Watanabe was awarded the Air Force Achievement Medal, Outstanding Unit and Southwest Asia Campaign Commendation awards.

Mr. Watanabe holds a B.S. in Mechanical Engineering from Cal Poly San Luis Obispo, CA and a B.S. in Professional Aeronautics from Embry Riddle Aeronautical University. He also earned a M.S. in Systems Engineering from the Naval Postgraduate School.



#### Executive of the Year Award

#### Dwight Yamada

Northrop Grumman

Mr. Yamada was formerly the Sector Director for the Reston, VA based Advanced Capabilities Demonstration Laboratory (ACDL) of Northrop Grumman Information Systems. The ACDL was a showcase of integrated mission capabilities and a working laboratory focused on advancements where technology is used as an enabler to efficiently convert data into knowledge then thought into action using natural, intuitive techniques. The ACDL was designed to exemplify how Northrop Grumman brings thought leadership for the markets



served and has industry recognition in multi-function visualization environments at multiple security levels used for command and control, intelligence and cyber systems. He also led the establishment of the Center for Innovative Solutions located in McLean, VA prior to transitioning to his current position.

Joining Northrop Grumman (previously TRW) in 1981, Mr. Yamada held a variety of technical, program and organizational assignments with increasing responsibility including Program Manager for the \$622M U. S. Air Force Unified Local Area Network Architecture Contract, General Manager of the Information Networks Division, Division Business Development Manager for the \$1B Data Technologies Division, Business Area Director for a \$250M products and services line of business for the Tactical Systems Division, Vice President of Managed Network Services for the \$3.1B Systems Integration Group, and Vice President of Operations for the Global IT Division.

Mr. Yamada is also a two time winner of the coveted Chairman's Award for Innovation– the first in 1993 and the second in 1998. He received his Bachelors of Science degree in Computer Science and Electrical Engineering from the University of Hawaii while working on a Defense Advanced Research Program Agency project called the AlohaNet, which was part of the foundation for the Internet.

He is currently active in diversity and stimulating interest in science, technology, engineering and math (STEM) amongst K-12 students by serving as Vice Chairman of the board for the Foundation for Fairfax County Public Schools, serving on the Thomas Jefferson High School for Science and Technology advisory board where he was the recipient of the 2013 "Tommy" Award in recognition of his contributions, supporting the Air Force Association's Cyber Patriot National High School Cyber Defense Competition presented by Northrop Grumman and mentoring many high potential technologists and college/high school interns throughout his career. In addition, his Asian Pacific Professional Network Employee Resource Group is very active in various Fairfax County and DC STEM initiatives supporting middle and high schools.









Dr. Yifeng Wang grew up in a small village in Zhejiang Province, China. He is a graduate of Zhejiang University (B.S. in Geology), Nanjing University (MS in Geochemistry), and Indiana University (Ph.D. in Geochemistry). He and his wife have one child. Yifeng came to the United States in March 1988.

Yifeng is a Distinguished Member of Staff at Sandia National Laboratories (Sandia) in Research & Development, Science and Engineering,

Geosciences. He is a technical lead or principal investigator for projects related to nuclear waste disposal, shale gas research, carbon sequestration and storage, and environmental nanomaterial development.

Yifeng's career began at Georgia Institute of Technology in 1993, where he spent 1.5 years as a postdoctoral fellow, working on biogeochemistry of aquatic sediments. He developed the first multicomponent, coupled reactive transport model for simulating biogeochemical processes in marine sediments.

In 1995, he joined Sandia as a Senior Member of Technical Staff and began work on geologic disposal of radioactive waste. As principal investigator of the near-field chemistry and gas generation programs for the Department of Energy (DOE) Waste Isolation Pilot Plant (WIPP), he developed an innovative method of using magnesium oxide (MgO) to control near-field chemistry and absorb carbon dioxide. He also performed pioneering work on the potential application of nanostructured materials in nuclear waste management.

As a Principal Member of Technical Staff from 2000 to 2010, he started working on the Yucca Mountain (YM) Repository Program. He was a member of the Independent Validation Review Team for the YM project, and he served on the DOE In-Depth Review Team for the YM Engineered Barrier System. Yifeng was first to demonstrate the effect of nanopore confinement on mineral-water interface chemistry.

In 2011, Yifeng was nominated and appointed to Distinguished Member of Research & Development Staff, specializing in Geosciences. Currently, he is the technical lead for the DOE Used Fuel Disposition (UFD) Natural System Evaluation Work Package and the principal investigator of a Laboratory Directed Research & Development project on shale gas disposition and release. He coordinates dozens of Research & Development staff across eight national laboratories and universities for the UFD project. He has published over 80 peer-reviewed publications and has six issued or pending U.S. patents. He is the editor-in-chief of American Institute of Mathematical Science's Environmental Science.





#### Most Promissing Engineer of the Year Award

## Jatin Mehta

Lockheed Martin

atin Mehta, Senior Electrical Engineer, started his career at Lockheed Martin Missiles and Fire Control (MFC) in 2007 as a member of the Electrical Engineering (EE) department. His first role at Lockheed Martin was working on the Patriot Advanced Capability (PAC-3) Guidance Processor Unit Redesign (GPUR) effort where he developed a printed circuit board. When this project was completed, he had made quite an impression on not only his immediate team but also with the leadership of the entire EE department. He is now requested by name as a



subject matter expert to work any digital/FPGA design project. After GPUR, Jatin transferred to the Power Management team to work a digital and analog design on a high current AC Link Controller project.

FPGA design encompasses using a hardware description language such as VHDL or Verilog to complete application specific functions by customizing the FPGA integration circuit. This includes the logic development of hardware instantiations, functional simulations, and timing analysis. Processor design is the detailed design of a circuit board similar to a computer's motherboard with a central processor, memory, multiple input/output interfaces, and other application specific features. Both of these areas are critical as the future of electronics combines more functionality into single integrated circuits and data buses continue to increase in frequency. Jatin excels in both of these areas and is forging new designs to incorporate emerging technologies into future LMMFC products. Jatin has pioneered system engineering tools to effectively manage and disseminate complex requirements, guidance, and processes/procedures for the new Nuclear Systems and Solutions (NSS) business area. One of his most significant accomplishments was when he was recruited to work a Corporate Focus Item Information Assurance Internal Research & Development.

Jatin was recently awarded with a Patent Award for the AC Link Converter Switch Engine and a Lockheed Martin Trade Secret Award. Jatin is currently serving as the lead processor board designer for the PAC-3 Launcher Modification Kit processor redesign effort. Jatin is quite innovative and placed in the 2012 Size, Weight, and Power (SWaP) Contest. Jatin recently won the 2013 Electrical Engineering Innovation competition. His idea has the potential to spawn a technology IRAD, providing a new growth area for the company.

Jatin has led the Asian Heritage Association (AHA) Employee Resource Group (ERG) for the past 3 years and is currently serving as the AHA chairman. In addition, he frequently helps community outreach programs and volunteers in the Kennedy Middle School Mentoring Program. Jatin received a Bachelor's of Science in Electrical Engineering and a Master's of Science in Electrical and Computer Engineering from the University of Texas.







Engineers NS

#### Linh Trieu-Pham Army

Mrs. Linh P. Trieu-Pham is the Chief of the Joint Networks Division of Communications Directorate CECOM Life Cycle Management Command, Software Engineering Center (SEC). She leads CECOM's efforts in providing Joint Users Interoperability Communications Exercises state-of-the art tactical radio communications, and COMSEC software engineering products and services through the Army and the Department of Defense. These efforts include support to over 15 communications systems in various stage of their life cycle. Her division represents over 50

government personnel and over 50 industry employees. She manages an annual budget in excess of \$20 million. More than half of her workforce supports Program Executive Offices and their representative Program manager (PMs). Her support to the PMs includes providing software engineering support to development systems that include Joint Tactical Radio System, and Key Management Infrastructure. Mrs. Trieu-Pham's Division provides software sustainment responsibility to the Current Warfighter Force. This works include providing new software releases across strategic and tactical communications systems worldwide.

Prior to her current position, Mrs. Trieu-Pham served as the CERDEC Software Engineering Directorate Chief for he Networks Branch in support of SEC, Communications Directorate, from Aug 2007 to May 2011. She led CECOM's efforts to provide tactical communications software engineering products and services in various stages of the system life cycle. Her branch represented over 18 government personnel and oversaw over 130 contractors. She successfully supported the BRAC move from Ft. Monmouth, New Jersery, to Aberdeen Proving Ground, Maryland. From 2001 through July 2007, Mrs. Trieu-Pham served as a project leader on several tactical communications systems.

Mrs. Trieu-Pham is also actively involved for the past 15 years with the Asian Pacific American (APA) special emphasis program and the local Federal Asian Pacific American Council (FAPAC) Fort Monmouth/ Aberdeen Proving Ground Chapter to help raise cultural awareness within the Ft. Monmouth and APG Army's workforce and the local Asian community.

Mrs. Trieu-Pham received a Bachelor of Engineering in Civil Engineering from the City College of New York, New York, NY in 1996 and a Master of Science degree in Software Engineering at Monmouth University in 1999.



#### Most Promissing Engineer of the Year Award

## Cam Donohue

Ms. Cam Chinh Donohue, born December 1977 in Ho Chi Minh City, Vietnam, grew up with non-English speaking parents in a lowincome inner city and was the first of her family to obtain a college education. She earned an Aeronautical Engineering BS from California Polytechnic University with affiliation to the National Aerospace Engineering Honor Society, Sigma Gama Tau. She was competitively selected to attend the United States Naval Test Pilot School (USNTPS), graduating through the Airborne Systems curriculum in 2007. She is



currently enrolled in the US Naval War College Fleet Seminar program and participating in the prestigious Naval Air Systems Command (NAVAIR) Leadership Development Program.

She began her career with the Department of Defense in 2000, supporting design, development, and testing of advanced propulsion technology, quickly rising to a number of leadership positions including: Future Naval capabilities air-breathing rocket motor technology demonstrator propulsion lead; System Integrator and Flight Test Engineer (FTE) for the Anti-Radiation Missile program; H-1 legacy and upgrades platforms Lead FTE; CH-53K Rotors Technical Lead; and F-35 JSF Mission Systems Lead. Her technical expertise spans across air-breathing and solid motor design, manufacturing, and certification; weapon system integration and developmental test; and mission systems test and evaluation across fixed/rotary wing platforms. Her contributions directly led to the deployment of aircraft and mission systems with improved capability, lethality, and survivability to fulfill critical United States Navy and United States Marine Corps (USMC) Fleet needs.

Ms. Donohue was named 2010 National Defense Industrial Association USMC FTE of the Year. She was awarded the Navy Meritorious Civilian Service Award in 2010, and awarded the 2012 Women of Color, Science, Technology, Engineering, and Mathematics Professional Achievement Special Recognition award. In addition to her professional commitments, Ms. Donohue has immersed herself with improving her civic community through educational outreach to underrepresented youth and community support to provide basic needs to low-income families. Ms. Donohue's self driven obligation to technical excellence and community service makes her a superior role model in her professional and civic communities.



#### 2013 Asian American Engineer of the Year Award at Dallas, Texas



AAEOY-2013 Distinguished Lifetime Achievement Award



AAEOY-2013 Distinguished Science-Technology Award



#### 2013 Asian American Engineer of the Year Award at Dallas, Texas



2013 AAEOY Lockheed Martin LM Aeronautics Plant Tour

Transition of 2013-2014 AAEOY Teams



#### **Future City Competition**

CIE-USA is the sponsor of the Best Residential Zone Award in 2013 National Engineers Week Future City Competition. CIE-USA begins the sponsorship of this special award in 2002. Since then, the total special award has been grown from less than ten to twenty-six special awards.



Each year 38, 000 kids (i.e., 7th and 8th grades students) embark on a transformative experience – asking and answering "how can we make our world a better place?" From this simple starting point, student teams spend four months imaging, designing and building cities of the futures.

The Winner is Jugum Novus Orbis City from Berkeley Preparatory School, Tampa Bay, FL 33615

From left to right in photo:

Engineers N

Jennifer Bartlett [mentor], Kelland Timothy (student), Kate Baten [educator], Bethany Schneider [student], Dr. Jun-Min Liu (CIE-USA presenter), and Nirav Aggarwal (student)





#### **INTRODUCING THE NEW** FACES OF ENGINEERING 2014



Christopher Agrawal, J.D. Bookoff McAndrews PLLC SME Education Foundation Agrawal, 30, a patent attorney, uses his engineering degree to protect the portfolios and new technologies of Internet companies like Speek.com.



Amy Jones John Deere IEEE/IEEE-USA Jones, 27, leads the team responsible for the first complete embedded software development process on a construction product line.



Joseph Flaxbeard, P.E. Lamp, Rynearson & Associates American Council of Engineering Companies Flaxbeard, 29, leads myriad projects but also drives his company's community involvement, including cleanups, hunger relief and youth outreach.



Rebecca Delaney, P.E. Primera Engine ASHRAE Delaney, 30, applies a global per-spective to her innovative energy solutions and volunteer service with Engineers Without Borders and African Dream Initiative



Madhavi Jadhav, P.E. Schlumberger Asia Services Limited Society of Petroleum Engineers Jadhav, 28, who was the first female to go offshore in India, contributes tirelessly to the Indian Youth Climate Networl



Stacy Moss Naval Undersea Warfare Center Division, Newport ASME

ASME Moss, 29, uses her unique combi-nation of technical, analytical and people skills in leading efficiency programs for weapons systems.

Grace Richardson, E.I.T.

University of Arkansas American Society of Agricultural and Biological Engineers Richardson, 28, develops water treatment methods geared toward disaster response, water conservation and improving lake ecosystems.



Gregory Von White II, Ph.D. Sandia National Laboratories National Action Council for Minorities in Engineering, Inc. White II, 29, is a systems engineer working on the B61-12 Life Extension Progra , a project crucial to the United States' national security

Tao Wang, Ph.D.

Sabre Holdings Chinese Institute of Engineers -USA (CIE-USA) Wang, 30, maximizes internal systems for 20-plus airlines around the world, in addition to improving travel booking sites.





Tarun Mohan Lal. Ph.D. Mayo Clinic Institute of Industrial Engineers Lal, 27, driven by a passion for universal access, improves patientfacing healthcare provider systems which boost user experience and reduce costs.



Kalyani Mallela Starkey Hearing Technologies Society of Women Engineers Mallela, 29, champions STEM education and leads a cross-functional team in developing cutting-edge hearing technology.



Felicia Knox, E.I.T. SHN Consulting Engineers & Geologists National Society of Professional Engineers Knox, 25, designs multidirectional drilled crossings using new trenchless technologies to bring water solutions to the Northwest



Julia Bower Green, P.E. Southern Company Services American Society of Civil Engineers Green, 30, manages environmental strategy and compliance for Southern Co., and previously for the construction of the United States' first nuclear power plant in 30-plus years

Every year, national engineering societies nominate colleagues 30 years or younger for consideration as a DiscoverE New Face of Engineering. This highly coveted award is recognized as a top honor for young engineers by their peers in the engineering community, and it continues to grow in prestige. What each of these honorees has in common is an inherent desire to make the world a better place. These young professionals are active in their communities and around the world, and are quickly becoming role models for generations of engineers to come.

To learn how these and more New Faces of Engineering are making a better world, visit www.DiscoverE.org | #eweek2014

#### 35th CIE/USA-SF Annual Conference Technical Session





#### Conference Chairman Dr. Tony Liu

Dr. Tony Liu is the President of CIE/USA-SF from 2013 to 2014 and is one of the CIE/USA-SF board members. Dr. Liu has been serving CIE since 2003 when he started his activities with CIE as a short course instructor. He was one of the co-chairs of 2010 CIE Annual Conference. Before his service as President, Dr. Liu was the Secretary and the Vice President of CIE in 2011 and 2012, respectively.

Dr. Liu is currently working at Qualcomm, and he is an industry expert in wireless communication technology like WLAN, LTE and WiMAX. Dr. Tony Liu received his Ph.D. in Electrical Engineering from the University of Southern California (USC), and his M.S. in Communication Engineering from National Chiao Tung University (NCTU). He has published many technical papers in the IEEE journal and international conferences, and he has taught many short courses at CIE/USA-SF and San Jose State University.

#### "FinFET-University Innovation Changes Semiconductor Chip Technology"



#### Prof. Chenming Hu

U.C. Berkeley

Gordon Moore calls the 3-dimensional transistor FinFET the most drastic shift in semiconductor technology in over 40 years. Intel has switched to FinFET for production. TSMC, Samsung, and all most advanced semiconductor companies will do so in 2014. What is FinFET? What else may the future bring?

Chenming Hu is Distinguished Chair Professor of Microelectronics at UC Berkeley. He was the Chief Technology Officer of TSMC and founder of Celestry Design

Technologies. He is best known for developing the revolutionary 3D transistor FinFET that powers all semiconductor chips beyond 20nm. He also developed the international standard transistor model that is used to design most of the integrated circuits in the world. He is a member of the US Academy of Engineering, the Chinese Academy of Science, and Academia Sinica. He has received the Andrew Grove Award, Nishizawa Medal, Semiconductor Industry Association Award, Asian American Engineer of the Year Award, and UC Berkeley's highest honor for teaching, the Berkeley Distinguished Teaching Award.



#### "Dark Matter: the Other Universe"

#### Prof. Chung-Pei Ma

A startling discovery in science in the past few decades is most mass in the universe is in "dark matter." This clever form of matter is capable of speeding up the motion of stars and galaxies while eluding direct detection at the same time. Dr. Ma will summarize the evidence for the existence of dark matter, discuss what it can and cannot be, and describe ongoing research on this mysterious component of the universe.

Dr. Ma is a Professor of Astronomy at the University of California, Berkeley. She

was born in Taipei, Taiwan, and received both her undergraduate and Ph.D. degrees in physics from the Massachusetts Institute of Technology. Before joining the faculty at UC Berkeley in 2002, she was a Fairchild Postdoctoral Fellow at the California Institute of Technology and an Assistant and Associate Professor of Physics and Astronomy at the University of Pennsylvania. Dr. Ma's scientific contributions are in cosmology and extragalactic astronomy. She has studied the properties of dark matter and dark energy, the cosmic microwave background, galaxy formation and evolution, and recently, discovered the two most massive black holes ever found, each with a mass ten billion times that of the Sun.

Among the awards Dr. Ma has received are the Maria Goeppert-Mayer Award from the American Physical Society, the Annie J. Cannon Award from the American Astronomical Society, the Lindback Award for Distinguished Teaching at the University of Pennsylvania, the Outstanding Young Researcher Award from the Overseas Chinese Physics Association, Fellowships from the Sloan and Simons Foundations, the Miller Professorship from the Miller Institute at UC Berkeley, and the election as a Fellow of the American Physical Society and the American Association for the Advancement of Science.

#### "The Lure of High Temperature Superconductivity"

#### Prof. Ching-Wu Chu University President

Onversity Tresident

Prof. Ching-Wu Chu, Texas Center for Superconductivity, University of Houston, and Honorary Chancellor of the Taiwan Comprehensive University System.

The discovery of high temperature superconductivity in 1986-87 has been hailed as a great advancement in modern physics and generated unprecedented enormous excitements worldwide. After the ensuing extensive studies, more than 300 high temperature superconductors have been discovered with a transition temperature up to 164 K, many theoretical models proposed and many prototype

devices constructed and demonstrated. Many questions remain. For instance, does room-temperature superconductivity exist, what is the mechanism for high temperature superconductivity and to what extend will high temperature superconductivity change our life? In this presentation, I shall briefly address the above questions after describing the history of high temperature superconductivity, summarizing its present status and discussing its future.

Dr. Paul C. W. Chu's biography is shown in page 10.







#### "Technologies for the Internet of Everything"



#### Mr. William McFarland

VP of Technology, Qualcomm Atheros, Inc.

I here is an explosion in the number and types of devices that are being connected to the internet. From large sophisticated devices like televisions, to small battery powered devices like thermostats, there is value to being able to access those devices over the internet, and in turn having the devices access the cloud. This talk will focus on the technologies that will enable the Internet of Everything (IoE) in which every electronic device is connected. These technologies include several types of wireless communication, IoE specific communication protocols, and sophisticated network processing to handle communications and run applications.

William J. McFarland is currently VP of Technology at Qualcomm Atheros. He leads new initiatives across Qualcomm Atheros' product line, which includes WiFi, Bluetooth, GPS, FM, NFC, Ethernet, and Power Line Communications. Bill also guides standards, regulatory, architecture, and technology roadmap planning. Bill joined Atheros in 1999, and was its CTO focusing in the same areas prior to the acquisition of Atheros by Qualcomm in May of 2011.

Before joining Atheros, Bill spent 14 years at the Hewlett Packard Research Lab designing analog ICs for high speed digital test equipment, fiber optic communications links, and led early research in integrated CMOS radios. Bill has published over 35 papers, holds over 70 patents, and is a Fellow of the IEEE. Bill received a BSEE from Stanford University in 1983, and a MSEE in Electrical Engineering from the University of California, Berkeley, in 1985.





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#### High School Student Scholarship Winners



#### Alyssa Tran

- Parent: Amanda Phan
- American High School, grade 11
- Duc Vien Vietnamese School Teaching Assistance (class of 26 students)
- Tri-City Chinese School/Fremont Chinese School student for 7 years
- Thornton JHS WEB Leader (Leader's Committee), planned activities during school for incoming students
- Girl Scout since 2003
- Senior Patrol Leader of Girl Scout troop 67619
- Accomplished Girl Scout Silver Award in 2011, working on Gold Award
- Member of Alameda Honor Band (2011-2012)
- Class President of Sophomore Class Council
- Orchestra Pit for American High School Musical: "I Love You, Because" -freshmen, "The Wedding Singer"sophomore, and "Little shop of Horrors"- Junior.
- National Teen Leadership Program participant 2011, 2012
- AHS Writing Club Secretary



#### Catherine Kang

- Parent: Angela Kuah
- Mission San Jose High School, grade 12
- Tzu-Chi Special education instructor for classes up to 10 students (teenagers and adults), I teach them computer skills and help them use their artistic side through hands on art (250+ hours)
- Junior Achievement Leader, I developed programs, games, and materials to teach a class of about 15 at risk kids about business, personal finance and managing money (30+ hours)
- Homecoming decoration committee (200+ hours)
- WTA Tournament, Lead Ball girls since freshman year. I manage a team of 8 ball girls and boys through the annual 3-week Bank of the West sponsored Women Tennis Tournament (130+ hours)
- Tennis #1 ranked single player of Junior year. Played varsity tennis for MSJHS from freshmen to Junior year. League champions sophomore and junior, NCS competitors both sophomore and junior years
- Champions of two Norcal USTA tournaments: Discovery Bay Junior challenges and South Bay end of the year challenges (sophomore year)
- Volunteer tennis coach (summer) at Youth Tennis League, a non-profit organization



#### Clark Ma

- Parent: Cheng Ma
- Lynbrook High School, grade 12
- Academic and extracurricular achievements
- Silicon Valley Chinese School Graduate
- Silicon Valley Chinese School Teacher's Assistant (32 hours)
- Wisdom Culture and Education Organization Teacher's Assistant (150 hours+)
- Wisdom Culture and Education Organization Super Teacher's Assistant (25 hours+)
- Taiwanese Volunteer Group Event Volunteer (15 hours+)
- Northern California Annual Confucius Memorial Ceremony Deacon
- Youth Acting for Kids and Interact Service Club Member
- Formosa Association of Student Cultural Ambassador
- National Chinese Honor Society Club Member



#### David Diao

- Parent: Pat Diao
- Mission San Jose High School, grade 11
- Academic and extracurricular achievements
- Jenny Lin Foundation: Volunterring (100+ hours)
- Academic Challenge club: Member 3 years
- School Tennis Team: 2 years
- Certificate of Merit: Advanced level piano
- Clarinet

#### High School Student Scholarship Winners

#### Derrick Ming-Jun Chow

- Parent: Rita & Edwin Chow
- Westmoor High School, grade 12
- Academic and extracurricular achievements
- Future Business Leaders of America: National Western Region Treasurer
- California State Vice President Western California Bay Section President
- Westmoor H.S. Co-President (two term)
- Dreamless: (Non-Profit Organization): Co-Founder & Chief Financial Officer
- United States Funds (UNICEF): Founder & President (School Chapter)
- Relay for Life of Daly City (American Cancer Society):
  - Accounting Chair (three term)
    - Team Captain (two term)
- Class of 2014: Class President (all four years)
- Associated Student Body: Executive Board Rep. (all four years)
- Westmoor H.S. Math Forum: Admin (two term)
- National Mathematics Award
- 1<sup>st</sup> Place Bay Area Section Winner in FBLA Competition
- 2<sup>nd</sup> Place California State Winner in FBLA Competition
- National FBLA Business Achievement Awards (all four levels)

#### Lee Hsieh

- Parent: Michael Hsieh and Maggie Li
- Leland High School
- Winner of Synopsys Science Fair
- Selected as a member of Stanford Asian Liver Center Leadership team
- Volunteer at Friends of Children with Special Needs and New Hope Chinese Cancer Care Foundation
- Co-founder and Vice President of Leland Music Club
- Grand Prix award of International Music and Arts Society's Young Artist Music Competition, invited to perform at Carnegie Hall
- Won the Marian Filice Youth Piano Competition; invited to play at Gavilan College's "Bach to Blues" fundraising concert
- Won the Northern California Int. Youth Music Competition judged by Ruth Slenczynska
- Master classes with Prof. Yu-cheng Yang and concert artist, Dr. Mordicai Shehori
- Finalist of the Zeiter Piano Competition at Conservatory of Music at University of the Pacific
- Performed alongside Zhao Qingjian (趙慶建), number one ranked martial artist in China

#### Sabrina Tsui

- Parent Albert Tsui
- Monta Vista High School, grade 11
- California Youth Chinese Symphony Percussion and Yanqi
- Marching Band and Winter Percussion
- High School Wind Ensemble
- Teacher Assistant at Meyerholtz Elementary ASEP Program
- Speech and Debate: Original Interpretation
- Purple and Gold Award
- Camp Leader of Santa Clara Cub Camp for 4 years
- Science Olympiad Club Officer: Director of Competitions







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General Motors would like to congratulate Dr. Ye-Chen Pan for winning the 2014 Asian American Engineer of the Year Award. Thank you for your tremendous leadership in the field of Computer Aided Engineering and all you do to advance the safety of GM vehicles.

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#### JOHN CHIANG California State Controller

March 1, 2014

Ms. Su-Syin Chou Director Chinese Institute of Engineers – San Francisco Bay Area Chapter P.O. Box 2889 Cupertino, CA 95015



Dear Friends:

It is with great pleasure that I extend greetings to the Chinese Institute of Engineers (CIE/USA), on the occasion of the Asian American Engineer of the Year award ceremony. This event honors the most distinguished Asian-American professionals from leading U.S. technology corporations and prestigious research institutions to celebrate National Engineers Week.

Since 2002, the Asian American Engineer of the Year award program has brought together experts the public and private sectors to recognize outstanding Asian American professionals in science and engineering for their technical achievements and public service. I applaud the award winners, as many of their achievements represent monumental breakthroughs in their respective fields with both global and long-lasting impacts.

It is with great enthusiasm that I extend my best wishes to all involved in CIE/USA for continued success.

Very truly yours,

JOHN CHIANG California State Controller

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