

2016
ROTARY NATIONAL AWARD FOR SPACE ACHIEVEMENT



SPACE PIONEER.

**RESEARCH
SCIENTIST.**

PATENT HOLDER.

LEADER.

For his distinguished leadership and contributions in space science and technology, Boeing is proud to congratulate Dr. Charles Elachi on receiving the 2016 National Space Trophy.



DR. CHARLES ELACHI

2016 National Space Trophy Recipient

The Rotary National Award for Space Achievement Foundation (RNASA) is pleased to recognize Dr. Charles Elachi, Director of NASA's Jet Propulsion Laboratory, as the 2016 National Space Trophy Recipient.



Dr. Charles Elachi,
Director NASA's Jet Propulsion Laboratory
(JPL Photo)



Over a career spanning nearly half a century, Dr. Charles Elachi has made a significant impact on space and Earth sciences nationally and internationally. From his years as a researcher advancing the field of imaging radar to his decade and a half as Director of NASA's Jet Propulsion Laboratory in Pasadena, California, Dr. Elachi has been responsible for an exceptionally active period of robotic space missions in solar system exploration, Earth science and space-based astronomy.

Nominated

Dr. Elachi was nominated for the award by A. Thomas Young, former Director of NASA's Goddard Space Flight Center. "Charles Elachi's distinguished leadership and sustained technical achievement has had a profound impact on the U.S. robotic exploration of space across the late 20th and early 21st centuries," said Young. "His contributions and vision have impacted space science and technology, generations of young people and professionals, and society at large."



Charles Elachi doing field work in Western Egypt where the spaceborne imaging radar (SIR-A) found ancient river channels and stone tools beneath the sands of the Sahara, 1982.
(Elachi Photo)

Early Life and Education

Born in Lebanon in 1947, Dr. Elachi earned a Bachelor of Science in Physics from University of Grenoble,

France in 1968, the Diplôme d'Ingénieur in Engineering from the Polytechnic Institute, Grenoble in 1968, and the Master of Science and Ph.D. degrees in electrical sciences from the California Institute of Technology, Pasadena in 1969 and 1971. He also holds a Master of Science degree in Geology from the University of California, Los Angeles and a Master of Business Administration from the University of Southern California.

Research and Management

Joining JPL in 1970, Dr. Elachi focused early in his career on synthetic aperture radar and its use in planetary and Earth sciences. He led the science team for the Shuttle Imaging Radar A, Shuttle Imaging Radar C and Shuttle Imaging Radar C/X-SAR and Shuttle Radar Topography missions flown on NASA's Space Shuttles during the 1980s and 1990s. In addition, he participated on the science team for the Magellan mission to Venus, which used imaging radar to penetrate the thick clouds cloaking our nearest neighboring planet.



Charles Elachi with the Mars Curiosity rover
(JPL Photo)

Dr. Elachi also leads the science team for the Titan Radar instrument on the Cassini mission to Saturn. This radar has allowed scientists to penetrate the hazes surrounding Saturn's moon Titan to help understand chemical processes which may be similar to those that led to the formation of life in the early solar system.

In 1988, Dr. Elachi was named to JPL's Executive Council as the director for the Laboratory's Office of

(continued on next page)

DR. CHARLES ELACHI

2016 National Space Trophy Recipient

(continued from page 3)

Space Science and Instruments. This organization significantly expanded the portfolio of JPL's instruments and other flight projects across Earth science and planetary science.

Dr. Elachi's expertise in imaging radar allowed him to participate in archaeological expeditions to the ancient deserts of Egypt, Oman and China in search of buried cities, including the Lost City of Ubar on the Arabian Peninsula. Some of these works have been chronicled in National Geographic magazine.

JPL Directorship

In May 2001, Dr. Elachi was named Director of JPL, beginning 15 years of leadership of the Laboratory. During his tenure, 31 spacecraft and major instruments have been launched on missions in solar system and Mars exploration, Earth science and space-based astronomy, making it a remarkably busy and successful period in robotic space exploration.

JPL's missions in solar system exploration during this time included Genesis, which collected samples of solar wind and brought them to Earth; the MIRO instrument on the European Space Agency's Rosetta orbiter mission to a comet nucleus; Deep Impact, which used a penetrator to create a crater in a comet nucleus for scientific study; Dawn, which has used ion propulsion to visit two target bodies for the first time, the protoplanet Vesta and the dwarf planet Ceres; the Moon Mineralogy Mapper, an instrument flown on a mission sent to the moon by India; Di-



Elachi was responsible for developing the field of spaceborne imaging radar. He is the Team Leader of the Cassini Titan Radar experiment, which studies one of Saturn's moons, and a Co-Investigator on the Rosetta Comet Nucleus Sounder Experiment.

(JPL Photo)

viner, another lunar instrument, flown on a NASA orbiter; Juno, which will arrive at Jupiter on the Fourth of July 2016 to study the giant planet; and GRAIL, a pair of lunar orbiters that made highly detailed gravity maps of the moon.

In Mars exploration, missions launched under Dr. Elachi's leadership have included the Mars Exploration Rovers Spirit and Opportunity, which landed in 2004; Mars Reconnaissance Orbiter, which has spent a decade in orbit with a telescopic camera and suite of other instruments; Mars Phoenix lander, which landed in the planet's north and dug soil samples to search for water; and Mars Science Laboratory, which



A jubilant Director of the Jet Propulsion Lab after the landing of the Curiosity rover on Mars, August 5, 2012

(JPL Photo)

sent the highly capable Curiosity to rove to the Red Planet in a landing in 2012.

JPL's Earth science missions expanded significantly under Dr. Elachi's leadership.

These included

the Jason 1, 2 and 3 satellites launched in collaboration with France's space agency to study sea level; the GRACE twin satellites making gravity maps of Earth; the AIRS, TES and MLS instruments on NASA Earth satellites; Cloudsat, a satellite designed to study Earth's clouds; Aquarius, a mission launched with Argentina to study global sea surface salinity; Orbiting Carbon Observatory 2, a satellite examining carbon dioxide concentrations and distributions in Earth's atmosphere; RapidScat, a scatterometer instrument on the International Space Station that charts near-surface ocean winds; and SMAP, a satellite designed to study land surface soil moisture and freeze-thaw states around the globe.

(continued on page 35)

A portrait of Dr. Charles Elachi, a middle-aged man with glasses, wearing a dark suit jacket over a blue and white striped shirt. He is smiling and has his arms crossed. The background is dark with many out-of-focus, glowing blue and white circular lights, creating a bokeh effect.

DARE MIGHTY THINGS

Congratulations

Dr. Charles Elachi

The 2016 National Space Trophy recipient
and to all Stellar Award nominees and recipients

JPL
Jet Propulsion Laboratory
California Institute of Technology

The Honorable **CHARLES F. BOLDEN JR.**

2016 National Space Trophy Presenter

The RNAS Foundation is honored to have NASA Administrator Charles Bolden Jr., as the 2016 National Space Trophy Presenter. Mr. Bolden was the recipient of the National Space Trophy in 2014.



Charles Bolden Jr.
(NASA Photo)



Bolden, a retired Major General in the USMC and former astronaut, leads a nationwide NASA team to advance the missions and goals of the U.S. space program.

At NASA, Bolden has overseen the safe transition from 30 years of space shuttle missions to a new era of exploration. He has led the development of NASA's Space Launch System rocket and Orion spacecraft that will carry astronauts to deep space. During his tenure, the Orion deep-space crew module was successfully developed, launched and recovered. The module is the first human rated spacecraft to be developed for flight beyond low Earth orbit by any nation in more than 40 years. Bolden's leadership has also contributed to the unprecedented Mars Curiosity Rover landing, the launch of a spacecraft to Jupiter, enhancing the nation's fleet of Earth-observing satellites, and continued progress toward the 2018 launch of the James Webb Space Telescope, the successor to the Hubble Space Telescope. NASA's support of commercial space transportation has enabled successful cargo resupply missions to the International Space Station and made significant progress toward launching astronauts from American soil by 2017.

Bolden was born Aug. 19, 1946, in Columbia, S.C. He graduated from C. A. Johnson High School in 1964 and received an appointment to the U.S. Naval Academy. Bolden earned a BS in electrical science in 1968 and was commissioned as a 2nd lieutenant in the Marine Corps. He became a naval aviator in 1970. Bolden flew more than 100 combat missions in Vietnam, Laos, and Cambodia, while stationed in Namphong, Thailand, from 1972-73.

Upon his return to the U.S., Bolden continued service with the Marine Corps and worked on a master's in

systems management which he earned from the University of Southern California in 1977. He was then assigned to the Naval Test Pilot School at Patuxent River, MD., and completed his training in 1979.

In 1980, Bolden was selected as an astronaut. Bolden first flew as pilot of STS-61C (Jan. 12-18, 1986) that deployed the SATCOM KU-1 satellite. He also piloted STS-31 (April 24-29, 1990) that delivered the Hubble Space Telescope to orbit. He commanded a crew of 7 on STS-45 (March 24-April 2, 1992), NASA's ATLAS-1 flight. His final mission was as commander of STS-60 (Feb. 3-11, 1994), the first joint U.S.-Russian shuttle mission which featured Cosmonaut Sergei Krikalev as a member of his crew. After logging 680 hours in space, Bolden left NASA in 1994 to return to active duty with the Marine Corps. He was inducted into the Astronaut Hall of Fame in 2006.

Bolden served as the deputy commandant of midshipmen at the U.S. Naval Academy. In 1997, he was the deputy commanding general of the 1st Marine Expeditionary Force in the Pacific. In 1998, he was commanding general of the 1st Marine Expeditionary Force Forward in support of Operation Desert Thunder in Kuwait. Bolden was promoted to his final rank of major general in July 1998 and named deputy commander of U.S. Forces in Japan. From 2000-02, he served as the commanding general of the 3rd Marine Aircraft Wing at Marine Corps Air Station Miramar in San Diego, CA. He retired from the Marine Corps in 2003.

Bolden was employed as the chief executive officer of JackandPanther LLC, a privately held military and aerospace consulting firm, when he was nominated to be the 12th Administrator of NASA by President Barack Obama in May, 2009. Bolden was confirmed by the U.S. Senate and took office in July 2009.

Bolden is married to the former Alexis (Jackie) Walker of Columbia, S.C. Their son, Anthony Che, is a colonel in the Marine Corps and is married to the former Penelope McDougal of Sydney, Australia. Their daughter Kelly Michelle, is a plastic surgeon at the Howard University Hospital in Washington DC.

The background of the advertisement is a dramatic space scene. At the top, the Orion spacecraft is shown in orbit, with its large solar panel arrays extended. The sun is visible as a bright, glowing orb behind the spacecraft, creating a lens flare effect. The horizon of a planet, likely Earth, is visible in the lower half of the frame, with a thin layer of atmosphere. The sky is a deep, dark blue, filled with stars and a faint nebula or galaxy in the lower right corner.

THE SKY IS NOT THE LIMIT

AT LOCKHEED MARTIN,
WE'RE ENGINEERING A BETTER TOMORROW.

For all the achievements of humanity's early ventures into space, far greater wonders still await. Orion will carry explorers on bold missions to the far side of the moon, to near-Earth asteroids, and to Mars—missions that will excite the imagination and advance the frontiers of science. Because at Lockheed Martin, we're designing ships to go as far as the spirit of exploration takes us.

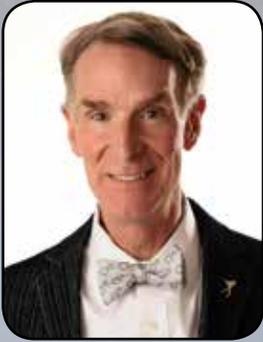
Learn more at lockheedmartin.com/orion



BILL NYE

2016 Space Communicator Award Recipient

The Rotary National Award for Space Achievement Foundation is pleased to present the 2016 Space Communicator Award to Bill Nye, scientist, engineer, comedian, author and inventor. Nye is best known as “Bill Nye the Science Guy”.



Bill Nye
(Planetary Society
Photo)



As a vocal advocate for space exploration, Nye is the CEO of

The Planetary Society, the world’s largest space-interest group. Nye is being honored by RNASA for his passion and talent to engage and educate audiences on the benefits of space exploration and the discoveries that result. Under his leadership since 2010, the non-profit organization has seen an increase in member-

ship and donations, allowing it to expand its efforts to advocate and educate, as well as fund exploration projects and citizen science activities.

Nye said, “Space exploration brings out the best in us, it’s an honor to receive this award. I plan to continue my work advancing science literacy and space exploration, so that people everywhere can know the cosmos and our place in it.”

Nye is a man with a mission: to help foster a scientifically literate society, to help people everywhere understand and appreciate the science that makes our world work. Making science entertaining and accessible is something Nye has been doing most of his life.

Nye’s fascination with how bicycles, airplanes and other things work led him to Cornell University and a degree in Mechanical Engineering in 1977. Soon after graduating, Boeing recruited him as an engineer in Seattle, Washington. It was in Seattle that Nye began to combine his love of science with his flair for comedy. Eventually, Nye quit his engineering day job and made the transition to a night job as a comedy writer and performer on Seattle’s homegrown ensemble comedy show “Almost Live” in 1986.

It was there “Bill Nye the Science Guy®” was born, as a six-minute segment highlighting science. The popu-

larity of the segments led to the educational television series that ran from 1993 to 1998.

While working on the Science Guy show, Nye won seven national Emmy Awards for writing, performing, and producing. The show won 18 Emmys in five years. In between creating the shows, he wrote five kids’ books about science: “Big Blast of Science”, “Bill Nye’s Consider the Following”, “Bill Nye The Science Guy’s Big Blue Ocean”, “Bill Nye The Science Guy’s Great Big Dinosaur Dig” and “Bill Nye The Science Guy’s Great Big Book of Tiny Germs”.

Nye’s first book for a general audience, “Undeniable – Evolution and the Science of Creation,” was featured on the New York Times’ Bestsellers List. Nye’s most recent book, “Unstoppable-- Harnessing Science to Change the World,” takes on the subjects of energy and climate change. He met with President Obama in 2015 and has appeared on Larry King Live to speak out about the effects of global warming.



Bill’s Climate Lab at the Chabot Space and Science Center Oakland, CA

(Chabot Space & Science Center
Photo)

Utilizing his well-known image and influence, Nye continues to focus his efforts on teaching children through entertainment. He has a permanent exhibit at the Chabot Space & Science Center in California and has made several appearances on the PBS program The Secret Life of Scientists and Engineers. Nye has also been a returning guest at the White House Science Fair since 2012.

Nye divides his time between Los Angeles and Manhattan. He enjoys baseball and is an avid swing dancer.

MEI Technologies, Inc.

Congratulates

Dr. Charles Elachi
Jet Propulsion Laboratory Director

2016 National Space Trophy Recipient

MEI Technologies, Inc. (MEIT) also commends all of the Stellar Award nominees on their dedication and contributions to our nation's space program.



Photo by NASA/JPL-Caltech



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MEI TECHNOLOGIES®
Merging Excellence and Innovation

30th Annual Rotary National Award for Space Achievement



SGT congratulates Dr. Charles Elachi, an exceptional leader and recipient of the 2016 National Space Trophy. We also extend our congratulations to all the Stellar Award winners and nominees for their significant contributions to exploration and the advancement of America's space programs.

ELLIOT PULHAM

2016 Space Communicator Award Presenter

The RNASA Foundation is pleased to have Elliot Pulham return this year as the Space Communicator Award Presenter at our 30th annual gala.



Elliot Pulham
(Space Foundation Photo)



Pulham is the chief executive officer of the Space Foundation, a globally respected nonprofit organization whose mission is “to advance space-related endeavors to inspire, enable and propel humanity.”

With headquarters in Colorado Springs, the Space Foundation publishes The Space

Report: The Authoritative Guide to Global Space Activity. Through their Space Certification and Space Technology Hall of Fame programs, the Space Foundation recognizes space-based technologies and innovations that have been adapted to improve life on Earth. The Space Foundation offers a broad range of space-related programs, education for K-12, undergraduate students, graduate students, and educators. It is perhaps best known for its annual Space Symposium, which was held earlier this month in Colorado Springs.

As the winner of the 2003 RNASA Space Communicator Award, Pulham has a long history communicating about space. His first job was with a Honolulu newspaper in his native Hawaii where he followed space projects.

From 1988 to 1998, Pulham was senior manager of public relations, employee communication and advertising for all of Boeing’s space programs. He served as the director of corporate communication for the Boeing Employees Good Neighbor Fund—a united giving campaign that raised \$18 million in a single year for health and human service agencies.

Pulham moved to Huntsville, Alabama when Boeing was put in charge of the Space Station Work Packages. In 1993, funding for the International Space Station (ISS) passed Congress by just one vote. To build support, Pulham led a grassroots campaign that resulted in thousands of letters mailed to Congress from

people all over the country touting the importance of keeping the program sold. The campaign resulted in ISS passing Congress by a 2 to 1 vote the next year. Pulham’s leadership earned him the coveted Silver Anvil Award from the Public Relations Society of America—the profession’s highest honor.



Pulham was emcee for RNASA in 2013.
(RNASA Photo)

Continuing with Boeing back in Seattle, from 1995 to ‘97 Pulham served as deputy chairman, then chairman, of the Space Awareness Alliance. This coalition of 30 corporations and nonprofit organizations

conducted national public affairs activities on behalf of America’s space programs. He was a spokesperson at the Kennedy Space Center for many interplanetary missions including Magellan to Venus, Galileo to Jupiter, and Ulysses which flew past Jupiter to reach a polar orbit to study the sun.

Pulham joined the Space Foundation in Colorado Springs in 1998. He served as Executive Vice President, leading the Space Foundation’s public affairs, customer relations, corporate development, communications and marketing teams before becoming chief executive officer, his current position, in 2001. His leadership is credited with more than doubling the attendance of the Space Symposium and the founding of numerous educational programs.

Pulham serves on the editorial board of New Space Journal (www.newspacejournal.com). He is a former Air Force civic leader and advisor to the chief of staff and secretary of the Air Force, and a recipient of the USAF Distinguished Public Service Medal.

A resident of Colorado Springs, Pulham enjoys skiing, motorcycling, hiking, and camping in the Colorado Rockies with his wife, Cynthia, and son, William.

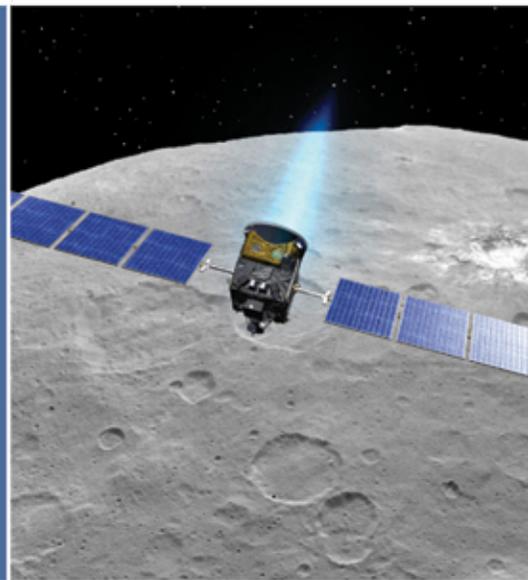


The Partner You Can Count On™

Orbital ATK Congratulates Dr. Charles Elachi

2016 National Space Trophy Recipient

*As well as all Stellar Award nominees and winners for their
dedication and excellence in the advancement of America's
space goals.*



OrbitalATK.com

MILES O'BRIEN

Emcee

The Rotary National Award for Space Achievement Foundation (RNASA) is thrilled to welcome broadcast news veteran Miles O'Brien as Emcee for the 30th annual awards gala. O'Brien suffered a terrible accident in 2014 when a large television equipment case fell on his left forearm, forcing doctors to amputate just above his elbow. His strength and resilience during the healing process is an inspiration to us all.



Miles O'Brien
(O'Brien Photo)



Miles O'Brien is a veteran independent journalist who focuses on science, technology and aerospace.

He is the science correspondent for PBS NewsHour, a producer and director for the PBS science documentary series NOVA, a correspondent for the PBS documentary series FRONTLINE, and the National

Science Foundation Science Nation series. He is also an aviation analyst for CNN.

Born and raised in Detroit, Michigan, he studied history at Georgetown University and began his broadcasting career in 1982 in Washington, DC. O'Brien was a reporter and anchor at TV stations in St. Joseph, Missouri; Albany, New York; Tampa and Boston. He joined CNN in Atlanta as the science correspondent in 1992.

While with CNN, O'Brien anchored programs including Science and Technology Week, Headline News Primetime, and CNN American Morning. He has covered all aspects of space including reports on the Hubble Space Telescope, the shuttle dockings at Mir, the first space station launch from Kazakhstan, John Glenn's return to space, landings on Mars, the winning of the Ansari X-Prize, and the tragic loss of Columbia and its crew, a story he told to the world in a 16-hour marathon of live coverage.

After years of negotiations, NASA had an agreement with CNN that, if not for the disaster, would have made O'Brien the first journalist to fly on a space shuttle. O'Brien followed the investigation and successful re-

turn to flight. He left CNN in December 2008.

A third-generation pilot with an instrument rating, O'Brien owned a Cirrus SR-22 that he often flew to assignments. He is often called upon to explain the world of aviation to a mass audience and has reported extensively on civil aviation issues and crash investigations—most notably the disappearance of Malaysia Airlines flight MH370.

O'Brien has won numerous awards over the years, including five Emmys, a CINE Golden Eagle, and a Peabody and DuPont to name a few.

In 2014 a heavy equipment case fell on Miles's forearm while he was on assignment. He developed acute compartment syndrome, which necessitated the emergency amputation of his left arm above the elbow. Despite the loss of his arm, Miles continues to report on the latest scientific field research from all corners of the globe, whether it be the melting Denali Glacier or the Ebola hot zone of Western Africa. Not one to let anything hold him back, Miles is an



Miles O'Brien
(O'Brien Photo)

avid sportsman and enjoys physical challenges. Since his accident, he has ridden numerous "century rides" on his bicycle, run two marathons, and recently finished a triathlon.

Currently residing in Washington, DC, he is the proud father of two children. His son, a recent graduate of The US Naval Academy is an Ensign based in San Diego, CA, and his daughter will be graduating from Davidson College in North Carolina in May 2016.

P.J. O'ROURKE

Featured Speaker

The Rotary National Award for Space Achievement Foundation (RNASA) is pleased to welcome P.J. O'Rourke, journalist and American political satirist, as the RNASA's featured speaker of the 30th annual awards banquet.



P.J. O'Rourke
(O'Rourke Photo)



Known for his humorous libertarian style, P.J. has authored 17 books including *Don't Vote – It Just Encourages the Bastards* and *The Baby Boom: How It Got That Way (And It Wasn't My Fault) (And I'll Never Do It Again)*. Two of his titles, *Give War a Chance* and *Parliament of Whores*

reached #1 on the New York Times Best Sellers list. In addition to his successful books, P.J. is a contributing editor at the *Weekly Standard*, a Cato Institute H.L. Mencken Fellow and a panelist on *National Public Radio's* game show *Wait, Wait...Don't Tell Me!*

As a long-time advocate of the space industry, P.J. has served on the Space Foundation Board of Directors since Jan 2012 and has been a returning speaker at the annual Space Symposium. "While P.J. is noted as the most quoted living humorist in the world, his support of space exploration is also a huge part of his passion for the things that make America great," said Elliot Pulham, Chief Executive Officer of the Space Foundation. "Through his writing, and his service as a board-level leader at the Space Foundation, P.J. O'Rourke helps the world to better understand why the exploration of space matters."

Regarding speaking at the RNASA Space Awards Gala, P.J. said "I'm a little daunted by the size of the audience. I've never before spoken to the entire universe. And I'm deeply honored."

P.J. began publishing freelance articles in magazines such as *Rolling Stone*, *Vanity Fair* and *Car and Driver* in 1981. He was the foreign affairs desk chief for *Rolling Stone* magazine until 2001, reporting on wars and riots, stories that were eventually compiled into the book *Holidays in Hell*.

Early in his career, P.J. served as editor-in-chief for *National Lampoon*. He received a writing credit for *National Lampoon's Lemmings* which helped Chevy Chase, John Belushi and Christopher Guest begin their successful careers in comedy. He also co-wrote *National Lampoon's 1964 High School Yearbook*, some of which was used in the 1978 movie *Animal House*.

Spanning more than 40 years, P.J.'s career happened remarkably by accident. He was quoted as saying "I began to write for pay in the spring of 1970. To tell the truth I didn't even mean to be a writer, I meant to be a race car driver, but I didn't have a race car." He was born in Toledo, Ohio where he completed his undergraduate studies at Miami University and earned a M.A. in English from Johns Hopkins University. P.J. and his wife Tina have three children, Elizabeth, Olivia and Clifford. They live in rural New Hampshire.

REX WALHEIM

Stellar Awards Presenter

The RNASA Foundation is pleased to have Astronaut Rex Walheim present the Stellar Awards this year. He is a veteran of three shuttle missions including STS-135, the space shuttles final voyage.



Rex Walheim
(NASA Photo)



Born in 1962 in Redwood City, California, Walheim earned his Bachelor of Science in Mechanical Engineering from the University of California, Berkeley, in 1984 and a Master of Science in Industrial Engineering from the University of Houston in 1989.

Beginning in 1985, Walheim worked as a missile warning operations crew commander at the Cavalier Air Force Station in North Dakota. In 1986, he moved to Houston where he worked as a mechanical systems flight controller at the Johnson Space Center. He was also the lead operations engineer for the space shuttle landing gear and brakes. Walheim was then transferred to the Air Space Command in Colorado where he was chosen for the Air Force Test Pilot School, which he attended at the Edwards Air Force Base in 1992. Following graduation, Walheim remained at Edwards where he was the project manager and commander of the avionics and armament flight and became an instructor at the test pilot school.

He was selected by NASA in March 1996. After completing 2 years of training and evaluation, he qualified for flight assignment as a mission specialist. Walheim has been assigned technical duties in the Astronaut Office Space Station Operations Branch, where he helped develop the initial procedures and displays used on the International Space Station. He served as CAPCOM in the Mission Control Center and was also the Chief of the EVA Branch. Subsequently, he served as the Chief of the Exploration Branch.

Walheim has flown on 3 shuttle missions spending over 36 days in space. His first mission, STS-110,

delivered and installed the S0 (S-Zero) Truss to the International Space Station in April 2002. The truss routes electricity, vents excess heat, and allows for future expansion of the ISS. This mission was the first time the robotic arm was used to maneuver spacewalkers around the station. The STS-122 mission followed in February of 2008. Walheim performed three spacewalks to prepare the European Space Agency's Columbus Laboratory for scientific studies. Walheim flew on STS-135 in 2011, the space shuttles' final mission. The crew delivered supplies and spare parts to the ISS.

Walheim's many honors include Distinguished Graduate, Reserve Officers Training Corps from the University of California, Berkeley. He received the Distinguished Graduate and top flight test engineer in the United States Air Force Test Pilot School Class 92A and the Defense Superior Service Medal, Defense Meritorious Service Medal, and Aerial Achievement Medal.

Walheim is now the Assistant Director for Operations in the Flight Operations Directorate, working issues involving Orion, ISS and the Commercial Crew Program. He and his wife Margie have two children. He enjoys snow skiing, hiking, softball and football.



Rex Walheim is lowered into the water to train for a contingency spacewalk in the Neutral Buoyancy Laboratory (NBL) in Houston.
(NASA Photo)

STEPHANIE WILSON

Stellar Awards Presenter

The RNASA Foundation is pleased to have Astronaut Stephanie Wilson present the Stellar Awards this year. She is a veteran of three flights aboard the Space Shuttle Discovery.



Stephanie Wilson
(NASA Photo)



Born in 1966 in Boston, Massachusetts, Wilson earned her B.S. in engineering science from Harvard University in 1988. She worked for two years for the former Martin Marietta Astronautics Group in Denver, Colorado. As a loads and dynamics engineer for the Titan IV rocket, Wilson was responsible for performing coupled loads analyses for the launch vehicle and payloads during flights. Wilson left Martin Marietta in 1990

to attend the University of Texas where she earned her M.S. in aerospace engineering in 1992.

Wilson then took a position as a member of the Attitude and Articulation Control Subsystem for the Galileo spacecraft at the Jet Propulsion Laboratory in Pasadena, California. Wilson also supported the Interferometry Technology Program as a member of the Integrated Modeling Team.

Selected by NASA in 1996, Wilson became the second African American woman to fly in space. Her first flight on Discovery was the second return-to-flight test flight, STS-121, commanded by Steven Lindsey that launched on July 4, 2006. Wilson supported robotic arm operations for vehicle inspection, multi-purpose logistics module (MPLM) installation, and extravehicular activities (EVAs). She also was responsible for the transfer of more than 15,000 pounds of supplies and equipment to the International Space Station (ISS). The mission delivered Expedition 13 crew member Thomas Reiter to the station. Discovery landed on July 17, 2006.

Her second flight on Discovery, STS-120, launched on October 23, 2007. The flight delivered the Harmony node to the ISS and carried Expedition 16 crew member Daniel Tani and returned Clayton Anderson from the ISS. During the flight, the P6 solar array was relocated from the Z1 (central) truss to the end of the port side. During the re-deploy of the array, the panels snagged and were damaged. An unplanned space-

walk was successfully performed to repair the array.

Wilson was again responsible for robotic arm operations and also served as the flight engineer on STS-120. At the time, she was one of three women in space, including ISS Commander Peggy Whitson and Shuttle Commander Pamela Melroy.

Wilson headed to the ISS onboard the Space Shuttle Discovery a third time on STS-131, which launched just before dawn on April 5, 2010. She was one of four women in space, including her fellow Mission Specialists Dorothy Metcalf-Lindenburger, Naoko Yamazaki, and Expedition 23 crewmember Tracy Caldwell Dyson. The flight delivered more than 27,000 pounds of supplies and equipment, including a tank full of ammonia that required three spacewalks and robotics to install, new crew sleeping quarters, and experiment racks. Wilson was responsible for robotics and EVA support.

The Leonardo MPLM — now permanently installed on the ISS — carried more than 6,000 pounds of hardware and science supplies on this mission, including the



Astronaut Stephanie D. Wilson, STS-121 mission specialist, works with the Mobile Service System (MSS) and Canadarm2 controls in the Destiny laboratory of the International Space Station.
(NASA Photo)

third and final Minus Eighty Degree Laboratory Freezer (MELFI), the Window Orbital Research Facility (WORF), and the Muscle Atrophy Resistive Exercise (MARES) rack.

An Associate Fellow of the American Institute of Aeronautics and Astronautics and a member of the Association of Space Explorers, Wilson has logged 42 days in space. She enjoys snow skiing, music, stamp collecting, and (of course) traveling.

RNASA FOUNDATION

2016 Rotary National Award for Space Achievement



All ROWS L TO R: THIRD ROW: Steven Fredrickson, Geoff Atwater (Treasurer), Duane Ross, Mike Hernandez. **Second:** Bill Taylor (Vice Chairman), Lindsey Cousins, Rodolfo Gonzalez (Chairman), Delia Stephens, Jayant Ramakrishnan, Shelley Baccus, Floyd Bennett, Bob Wren. **Front:** John Branch (SCR President), Jennifer Devolites, L. Jean Walker (Secretary), Frank Perez, Irene Chan. **Not pictured:** Jeff Carr, Stephanie Castillo, Ann Charles, Mary Alys Cherry, Bill Geissler, Susan Gomez, Jacinda Green, Philip Harris, Marcus Havican, Gary Johnson, Tim Kropp, Joseph Mayer, Veronica McGregor, Branelle Rodriguez, Celina Rogers, Lori Wheaton.



The Rotary National Award for Space Achievement (RNASA) Foundation was founded in 1985 to organize and coordinate an annual event to recognize outstanding achievements in space and create greater public awareness of the benefits of space exploration. Each year, the Foundation presents the National Space Trophy (NST) to an outstanding American (see previous winners on page 17) who has made major contributions to our nation's space program.

Nominations are solicited each fall from leaders in government, industry, and professional organizations. The winner is selected by a vote of the RNASA's Board of Advisors (page 33) that includes current and former NASA center directors, leaders of aerospace corporations, space journalists, and previous award recipients.

Since 1989, the RNASA Foundation has also recognized the heroes of the space program with Stellar Awards (pages 22-34) for individual and team achievements.

The RNASA Foundation is a nonprofit organization governed by a Board of Directors, a majority of whom must be

members in good standing of the Space Center Rotary (SCR) club. One third of the directors are elected each June for three-year terms except for the SCR president who serves for one year while president.

The RNASA Committee (pictured) serves the board and includes the directors, officers, corporate representatives, event coordinators, and dedicated Rotarians who help organize and produce a quality and memorable evening for our sponsors (page 19) and guests.

Excess funds remaining after event expenses are donated to space-related programs. Following the 2015 event, proceeds were donated to the NASA Aerospace Scholars Program which provides thousands of students the opportunity to experience the exciting work being done at Johnson Space Center.

The RNASA Foundation is grateful for the enthusiasm and support it receives from the aerospace industry, educational organizations, NASA, and the Department of Defense that allows the continued recognition of outstanding achievements in space exploration.

PREVIOUS NST RECIPIENTS

2016 Rotary National Award for Space Achievement

1987 - Maxime Faget
 1988 - Don Fuqua
 1989 - Richard Truly
 1990 - Lew Allen
 1991 - Aaron Cohen
 1992 - Norman R. Augustine
 1993 - Thomas Stafford
 1994 - Edward C. Aldridge

1995 - Daniel Goldin
 1996 - Robert L. Crippen
 1997 - George W.S. Abbey
 1998 - George H.W. Bush
 1999 - Christopher C. Kraft
 2000 - John W. Young
 2001 - Tommy Holloway
 2002 - George E. Mueller

2003 - Roy S. Estess
 2004 - Neil A. Armstrong
 2005 - Glynn S. Lunney
 2006 - Eileen Collins
 2007 - Eugene F. Kranz
 2008 - Eugene Cernan
 2009 - Michael D. Griffin
 2010 - Bill Gerstenmaier

2011 - Kevin P. Chilton
 2012 - Michael L. Coats
 2013 - Kay Bailey Hutchison
 2014 - Charles F. Bolden
 2015 - Robert D. Cabana



George Mueller
(RNASA Photo)



The RNASA Foundation would like to recognize the late George Mueller (1918-2015) for his contributions to the Apollo, Skylab, Space Shuttle and commercial aerospace programs. Dr. Mueller was the recipient of the 2002 NST. George Mueller, Ph.D. was a key player in the United States aerospace program for nearly five decades. Often referred to as the “father of the space shuttle program,” his contributions led to major advancements in the ballistic missile, Apollo, Skylab, space Shuttle and commercial programs.

Dr. Mueller joined Ramo Wooldridge in 1957 as the head of the electronic laboratories division. He oversaw the guidance and control systems of the Atlas, Titan, Thor and Minuteman ballistic missiles. He was also the project engineer for the development of the United States’ first successful space probe, Pioneer 1. By now, the year was 1963 and the United States was

in a race to put a man on the Moon by the end of the decade. Having earned a reputation as a successful manager of space programs, Dr. Mueller joined NASA as the associate administrator for manned space flight. As leader of the Apollo and Saturn programs, he quickly saw that current plans called for testing individual pieces of flight-ready hardware in a single mission. This plan was not going to lead to the lunar landing before 1971. His “all-up” approach tested all pieces of flight-ready hardware in one single launch. Although considered extremely risky, Dr. Mueller’s approach was later acknowledged as the only way NASA was able to achieve the lunar landing by the end of the ‘60s.

From 1995 to 2004, Dr. Mueller served as chief executive officer of Kistler Aerospace Corporation, where he directed the development and operations of the K-1, a commercial reusable launch vehicle, designed to deliver satellites into low-Earth orbit and provide a low-cost alternative to single-use launch vehicles.

Dr. Mueller passed away on October 12, 2015. He was 97.

PROGRAM

30th Annual Rotary National Award for Space Achievement Gala
Friday, April 29, 2016
Houston Hyatt Regency Imperial Ballroom

6:00 RECEPTION

7:00 WELCOME

Rodolfo González, Chairman, RNASA Foundation

PRESENTATION OF THE COLORS

Clear Lake High School, Clear Creek ISD
Cadets from 2nd Battalion JROTC

NATIONAL ANTHEM

Reagan Johnson

INVOCATION

Reverend William H. King III
Greater New Hope Missionary Baptist Church

DINNER

8:15

2015 YEAR-IN-REVIEW FILM

Space City Films

EMCEE

Miles O'Brien, Former CNN correspondent

FEATURED SPEAKER

P.J. O'Rourke

PRESENTATION OF SPACE COMMUNICATOR AWARD TO BILL NYE

Elliot Pulham, CEO Space Foundation

PRESENTATION OF STELLAR AWARDS

Rex Walheim and Stephanie Wilson, NASA Astronauts

PRESENTATION OF NATIONAL SPACE TROPHY TO DR. CHARLES ELACHI

Charles Bolden, NASA Administrator

PRESENTATION OF THE OMEGA WATCH

Thomas Stafford

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2016 Rotary National Award for Space Achievement

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OMEGA Watches

CHARLES ELACHI'S PORTRAIT

TASC

STELLAR AWARD TROPHIES

Orbital ATK

STELLAR AWARD PENS

Fisher Space Pens

STELLAR AWARD EVALUATION PANEL

Arnold D. Aldrich
Capt. Michael Coats
Col. Eileen Collins
Dr. Glynn S. Lunney

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STELLAR AWARDS PROGRAM

2016 Rotary National Award for Space Achievement



Each fall, the RNASA Foundation solicits Stellar Award nominations of space industry workers and teams deserving of special recognition. This year, 103 individual and 34 team nominations were received in four categories (see citations on pages 22-34). "Each company and organization may only nominate a select few people or teams in each category, so just being nominated is quite an achievement," noted Jennifer Devolites, the RNASA Stellar Awards Committee chairman. "The Foundation is proud to bring the outstanding work of all the nominees to the attention of a wider community."

All nominees are treated to an insiders' tour of Johnson Space Center (JSC) and an awards luncheon with a distinguished speaker. This year's speaker was Sunita Williams (see profile on page 21). Nominees receive framed certificates of recognition and blue ribbons to wear at the evening banquet so that guests can identify them and offer their congratulations.

The winners of the Stellar Awards are chosen by an esteemed panel of judges based on which accomplishments will have the most impact on future space activities and that meet the criteria of recognizing "unsung heroes." The winners are announced at the banquet where they receive a distinctive engraved marble trophy generously sponsored this year by Orbital ATK.

STELLAR AWARDS EVALUATION PANEL

Dr. Glynn S. Lunney, is a member of the RNASA Board of Advisors who is serving his fourteenth year on the Stellar Awards Evaluation Panel. He was the 2005 National Space Trophy winner.



Dr. Glynn S. Lunney
RNASA Photo

Lunney graduated from the University of Detroit in 1958. He worked at what is now Glenn Research Center in Cleveland, Ohio and transferred to Langley in Virginia in 1958. Lunney joined the Space Task Group in 1959 and moved to Houston in 1962. He was a flight director for Gemini and Apollo and head of the Flight Director's Office starting in 1968. He received an honorary doctorate from the University of Scranton in 1971. In 1972, Lunney became manager of the Apollo-Soyuz Test Project, and manager of the Apollo Spacecraft Office starting in 1973.

Lunney served at NASA Headquarters twice during 1976 and later in 1980, first as deputy associate administrator (AA) for Space Flight, and then as acting AA for Space Transportation Operations. In 1981, he returned to Houston to manage the Space Shuttle Program.

In 1985, Lunney left NASA and became president of Rockwell's Satellite Systems Division in California. After a tour at Rockwell Space Systems Division, he returned to Houston in 1989 to lead Rockwell's Space Operations Co. that became part of United Space Alliance (USA) in 1995. Lunney was VP and program manager of USA's Space Flight Operations Contract until his retirement in 1999.

Arnold D. Aldrich is a member of the RNASA Board of Advisors who is serving his ninth year on the Stellar Award Evaluation panel.



Arnold D. Aldrich
RNASA Photo

Aldrich joined the Space Task Group at Langley Field in 1959 following graduation from Northeastern University. He held a number of key flight operations management positions during the Mercury, Gemini, and Apollo programs. He served as Skylab deputy program manager; Apollo Spacecraft Program Office deputy manager during the Apollo Soyuz Test Project; Orbiter Project manager during development of Space Shuttles Discovery and Atlantis; and Space Shuttle Program manager. Following the Challenger accident, Aldrich was appointed director of the National Space Transportation System (Space Shuttle Program) at NASA Headquarters where he led recovery and return-to-flight efforts. He then served as AA for Aeronautics and Space Technology and, later, AA for Space Systems Development.

In 1994, Aldrich left NASA and joined Lockheed Missiles and Space Company in Sunnyvale, California. He was vice president, Commercial Space Business Development and then vice president, Strategic Technology Planning. With the merger of Lockheed and Martin Marietta, he became director of Program Operations at Lockheed Martin's headquarters in Bethesda, Maryland. He retired in 2007 and is now an aerospace consultant. Aldrich has received numerous honors including the Presidential Rank of Distinguished Executive and the NASA Distinguished Service Medal.

Colonel Eileen Collins, USAF (Ret.) and former NASA astronaut, STS-63, STS-84, STS-93, and STS-114, is a member of the RNASA Board of Advisors who is serving her second year on the Stellar Awards Evaluation Panel. She was the recipient of the 2006 National Space Trophy and she received the award as NASA's first female Space Shuttle Pilot and Commander.



Col. Eileen Collins

RNASA Photo

Collins earned her associate's degree in math/science from Corning Community College in 1976, her BA in math and economics from Syracuse University in 1978, a Master of Science degree in operations research from Stanford University in 1986, and a Master of Arts degree in space systems management from Webster University in 1989.

She was a T-38 instructor pilot at Vance AFB in Oklahoma, and a C-141 commander and instructor at Travis AFB in California. From 1986 to 1989, Collins taught math at the USAF Academy in Colorado and was a T-41 instructor. She graduated from the Air Force Test Pilot School at Edwards AFB in 1990 before her selection that year as a pilot astronaut. Collins first flight was the first for a woman pilot.

Collins flew on STS-63 Discovery from February 3-11, 1995, STS-84 Atlantis from May 15-24, 1997, STS-93 Columbia from July 23-27, 1999, which was the first Shuttle mission to be commanded by a woman, and STS-114 Discovery from July 26 to August 9, 2005.

Her special honors include the Defense Superior Service Medal, Distinguished Flying Cross, Defense Meritorious Service Medal, Air Force Meritorious Service Medal with one oak leaf cluster, Air Force Commendation Medal with one oak leaf cluster, Armed Forces Expeditionary Medal for service in Grenada (Operation Urgent Fury, October 1983), French Legion of Honor, NASA Outstanding Leadership Medal, NASA Space Flight Medals, Free Spirit Award, and the National Space Trophy.

Michael Coats is a member of the RNASA Board of Advisors who is serving his first year on the Stellar Award Evaluation panel. The former astronaut and former NASA Johnson Space Center Director received the 2012 National Space Trophy.



Michael Coats

RNASA Photo

Coats received his B.S. degree from the Naval Academy in 1968 and went on to earn his pilot's wings the very next year. He served aboard the USS Kitty Hawk in Southeast Asia and then served as a flight instructor with the A-7E Readiness Training Squadron in California until 1973.

Coats was selected as an astronaut in 1978 and piloted STS 41D in 1984, the maiden flight of Discovery. He went on to command STS-29 and STS-39.

Between 1991 and 2005, Coats worked for Loral Space Information Systems, Lockheed Martin Missiles and Space and Lockheed Martin Space Systems. He was the Director of JSC from 2005 until 2012. Under his leadership, JSC implemented over 80 partnerships and hosted summits and job fairs to help displaced workers. To help NASA attract and

retain future leaders, Coats instituted the Program Project Management Development, the Space Systems Engineering Development, and the Project Leadership programs.

NASA has recognized Coats with honors including the Distinguished Service Medal and the JSC Presidential Rank Award. He was inducted into the Astronaut Hall of Fame in 2007.

STELLAR LUNCHEON SPEAKER

Captain Sunita Williams, spoke at the Stellar Award luncheon at South Shore Harbour Resort earlier today. Williams earned her BS in physical science from the U.S. Naval Academy and was commissioned as an ensign in 1987. After an assignment at the Naval Coastal System Command, she received her designation as a basic diving officer and reported to Naval Aviation Training Command. In 1995, she earned her master's in engineering management from the Florida Institute of Technology returned to the Naval Test Pilot School as an instructor in the Rotary Wing Department and as the school's safety officer.



Sunita Williams

NASA Photo

Williams was selected for the astronaut program in 1998. Launched on STS-116 in December 2006, Williams joined the Expedition 14 crew onboard the International Space Station. She completed three spacewalks in 2007, setting a new record for spacewalk time by a woman that stood until December 2008. Upon landing in June 2007, she had spent a record-breaking 194 days, 18 hours and 58 minutes in space.

OMEGA WATCH PRESENTER

Lt. Gen. THOMAS STAFFORD, USAF (Ret.)

Once again, OMEGA has generously donated a watch to the recipient of the National Space Trophy. The watch is presented by Lt. Gen. Thomas P. Stafford, USAF (Ret.), the recipient of the Trophy in 1993, and a member of the RNASA Board of Advisors.



Thomas Stafford

RNASA Photo

From Weatherford, Oklahoma, Stafford graduated from the U.S. Naval Academy in 1952 and became an Air Force fighter and test pilot. He was the pilot for Gemini 6 in 1965 and the commander for Gemini 9 the next year. Stafford commanded Apollo 10 in 1969 and Apollo-Soyuz in 1975. He left NASA to command the Air Force Flight Test Center, and in 1978 became Deputy Chief of Staff at Air Force Headquarters in D.C. He retired in 1979, and co-founded the consulting firm of Stafford, Burke, and Hecker in Alexandria, Virginia. In 1990, Stafford chaired the team that prepared "America at the Threshold" to advise NASA on returning to the Moon and exploring Mars.

The RNASA Foundation wishes to express its gratitude to OMEGA and General Stafford for more than a decade of support to our annual event.

EARLY CAREER

Stellar Nominees

Ryan N. Abler of SGT - Outstanding contributions to development and testing of ISS simulator training facilities.

Sarah E. Baldwin of Aerojet Rocketdyne - Outstanding leadership, technical excellence, and innovation in flight operations contributing to the 100% mission success of the RS-68 Rocket Engine.

Jon R. Barnhart of SGT - Outstanding leadership in support of International Space Station guidance, navigation and control planning, training and flight efforts.

Melissa A. Beck of Aerojet Rocketdyne - Exceptional contributions to the affordability and component design of the Space Launch System RS-25 engine program.

Cassandra J. Bigini of Aerojet Rocketdyne - Exceptional contributions to the RL10 development and production engine program.

Jesse A. Buffington of NASA Johnson Space Center - Exemplary leadership of critical EVA flight hardware development and overall EVA exploration strategic planning and integration.

Eric Coffman of Lockheed Martin - Outstanding technical leadership in driving Orion spacecraft propulsion system innovations that streamlined assembly and testing operations, and improved production integration.

Anthony J. Cook of the Boeing Company - Outstanding leadership and technical contributions to the development, implementation, and delivery of a new ISS nitrogen/oxygen resupply system compatible with multiple launch systems.

Kiril Dontchev of SpaceX - Exceptional leadership overseeing the Pad Abort Test of the Crew Dragon spacecraft's integrated launch abort system.



2015 Early Career Stellar Award recipients. L to R: Randolph Bresnik (presenting), Kyle Brewer (NASA Johnson), Frank Bremer (Lockheed Martin), Nathan Stastny (USAF Research Laboratory), Esteban Barajas (Aerojet Rocketdyne), Jason Grow (The Boeing Company), Melinda Dutton (Orbital ATK), Tracy Caldwell-Dyson (presenting) (NASA photo, 2015)

AR1 BOOSTER ENGINE

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The employees of Aerojet Rocketdyne congratulate Dr. Charles Elachi, Jet Propulsion Laboratory Director, recipient of the 2016 Rotary National Award for Space Achievement. We also congratulate all Stellar Award nominees and winners for their contributions to the American Space program.

Dr. Brien R. Flewelling of the U. S. Air Force Research Laboratory - Outstanding contributions to image processing and computer vision applied to advanced space object detection, tracking, identification, and characterization.

Amanda A. Gertjejansen of the Boeing Company - Exceptional contributions implementing low cost effective engineering solutions to manufacturing of the Space Launch System core stage rocket.

Capt. Joshua L. Keener of the U. S. Air Force - Devotion to the nuclear force, intelligence community, and Space Situational Awareness capabilities in providing frontline leadership for the nation in these important mission areas.

Alan W. Kim of the Boeing Company - Demonstrated engineering excellence in solving difficult stress analysis challenges for SLS.

Amir Liaghati of the Boeing Company - Outstanding early career spaceflight accomplishments, including significant innovations in space telemetry encoding.

Mahsa Liaghati of the Boeing Company - Successful team leadership of avionics analysis in the design and verification of the Space Launch System Core Stage avionics.

Peter A. Masi of Jacobs - Outstanding contributions to the nation's human spaceflight program, including system testing and crew training in space simulation chambers.

Scott I. Matsui of the U. S. Air Force - Exceptional contributions to the Wide Field of View Testbed technology demonstration in support of next-generation overhead persistent Infrared missile warning capabilities of national defense.

Travis A. Moseman of the Boeing Company - Exceptional contributions to the safe and successful design of the NASA Docking System project and Deep Space Exploration.

John R. Mularski of SGT - Outstanding technical support and leadership in the development and execution of EVA operations for the Space Shuttle and ISS Programs.

Marcus Nelson of Orbital ATK - Demonstrated excellence as a top design engineer for Orbital ATK NASA programs, resulting in optimization and cost reductions for SLS propellant testing.

Matthew C. Porter of Orbital ATK - Significant contributions in the advancement of controlled solid propulsion for the Orion launch abort attitude control motor.

Christopher R. Pulcini of the U. S. Air Force - Exceptional dedication and business acumen combined to define a clear, multi-year plan to assure access to space for national security payloads and eliminate reliance on foreign systems.

Thomas E. Reyna of NASA Johnson Space Center - Exceptional contributions to JSC financial management, enabling timely, informed resource decisions at all levels.

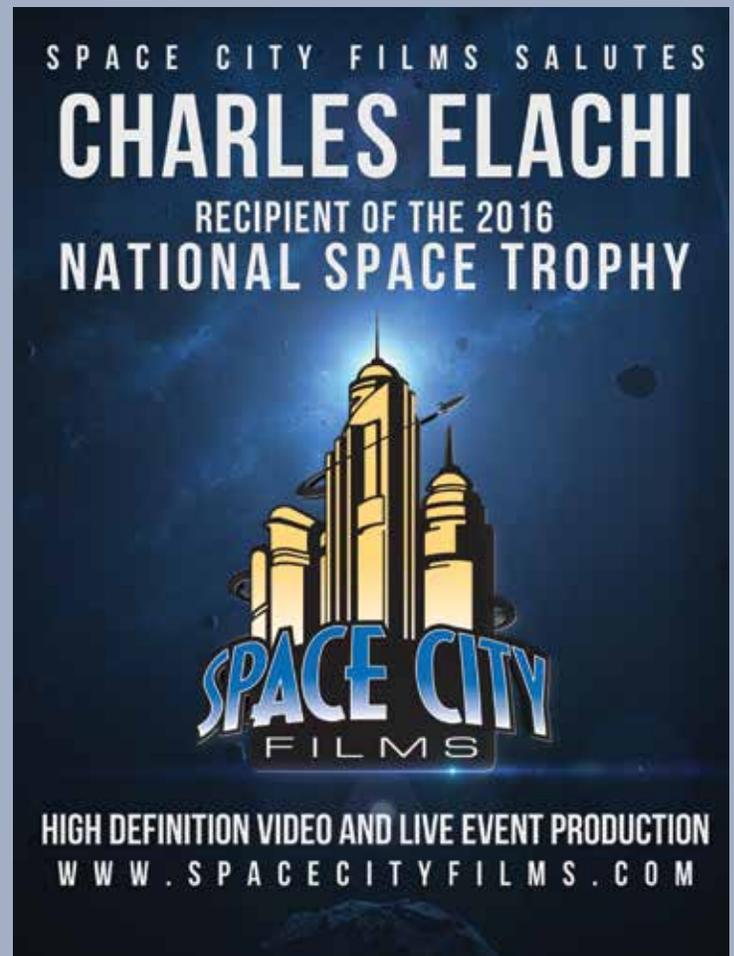
Jonathan D. Ross of UTC Aerospace Systems - Exceptional leadership in product safety and reliability engineering to support the development of Orion and Safety assessments for NASA.

Richard Santiago of UTC Aerospace Systems - Exceptional innovation and dedication to timely delivery and reduced cost on multiple NASA programs including the SLS thrust vector control system.

Theodore Shreve of Aerojet Rocketdyne - Exceptional early career achievements in support of monopropellant, bipropellant, and electric propulsion thrusters.

Kelly Smith of NASA Johnson Space Center - Outstanding leadership in the development and implementation of the Orion entry monitor footprint ground and on-board function, and other entry guidance laws.

Cora E. Treacy of UTC Aerospace Systems - Outstanding management effectiveness in support of the EATCS, ECLSS and Regenerative ECLSS on-board the International Space Station.



MID CAREER

Stellar Nominees

Dr. Alejandro R. Diaz of the Boeing Company - Outstanding accomplishments to further the ability of mankind to live, work, and explore in space.

Dr. Daniel C. Allgood of NASA Stennis Space Center - Significant advances in CFD techniques for rocket plume simulation, flame deflector design, rocket diffuser design and acoustic wave propagation in support of NASA and commercial space flight programs.

Lt. Col. Stephen M. Behm of the U. S. Air Force - Exceptional technical problem solving on complex space vehicles, leading to numerous successful classified military operations, and providing GPS capabilities to a billion users worldwide.

Judith C. Blackwell-Thompson of NASA Kennedy Space Center - Exemplary leadership and sustained contributions to manned spaceflight launch planning and execution.

Raul A. Blanco of NASA Johnson Space Center - Outstanding leadership, vision, and determination to develop the next generation of spacesuits and crew survival suits to enable NASA's exploration goals.

Chad E. Brown of NASA Kennedy Space Center - Exemplary support to future payload advance planning for the Group Systems Development and Operations Program.

Christopher A. Brown of Lockheed Martin - Exceptional innovation and leadership in the management of the International Space Station's regenerative life support systems.

Amie Cantilo of UTC Aerospace Systems - Sustained leadership, performance in logistics integration, and commitment to the safety and operational excellence of human spaceflight extravehicular activity.

Jesse D. Chuhta of Lockheed Martin - Outstanding technical performance analysis of Orion crew module separation events and developmental testing that defined Orion's human certification requirements for future exploration missions.

Paul T Connolly of Pratt & Whitney - Outstanding contributions to understanding the ORSC cycle and its operation in the RD-180 rocket engine.

Darby G. Cooper of the Boeing Company - Outstanding technical and team leadership of the SLS Stages Integrated Analysis team, including effective mentorship of aspiring and peer aerospace engineers.

Sylvia C. Cronkhite of the U. S. Air Force - Exceptional initiative in establishing enterprise financial management for operations, maintenance, and support of the Launch Test Ranges.

Christopher J. Dean of Jacobs - Exceptional dedication to advancing the technology platforms that make spaceflight safer and more productive.

April D DeVaney of the Boeing Company - Outstanding effort and leadership maturing the thermal protection system of the SLS Core Stage to a safe design and producible feature of the next human spaceflight launch vehicle.

Anthony A. DiCello of the Boeing Company - Exceptional leadership contributions of the development of the first two International Docking Adapters that will adapt the International Space Station for docking by the next generation of Commercial Crew Transportation systems.

Timothy E. Dominick of Orbital ATK - Pioneering materials advancement enabling controllable solid propulsion for human space applications.

Anthony J. Egerstaffer of the Boeing Company - Exceptional engineering to establish the Boeing Commercial Crew Program's robust and highly accessible development and integration lab.

Lt. Col. Christian G. Elenbaum of the U. S. Air Force - Exceptional contributions to Space Based Infrared Systems Program reducing satellite production costs by over one billion dollars.

Maj. Matthew P. Flahive of the U. S. Air Force - Demonstrated history of outstanding multidisciplinary performance and leadership across satellite communications, satellite command and control, overhead intelligence systems, and the launch enterprise.

Stace W. Garrett of the Boeing Company - Significant contributions and engineering leadership during the development phase of NASA's Commercial Crew Transportation System.

Dr. Jessica A. Gaskin of NASA Marshall Space Flight Center - Exemplary scientific and technological achievements, leadership, service and citizenship, across many disciplines and boundaries.

Cornelius E. Glorie of Aerojet Rocketdyne - Outstanding leadership in the adaptation of the RS-25 Turbomachinery to the NASA SLS vehicle and restart of the manufacturing activity.

Douglas Greisen of Aerojet Rocketdyne - Outstanding technical leadership as chief engineer for bipropellant engines in the 5 lbF to 200 lbF thrust class.

Stuart Grover of Orbital ATK - Execution excellence in the development of material, processes and tools to facilitate the production of zero-defect hardware.

Robert A. Jarvis of NASA Johnson Space Center - Exceptional operations and engineering leadership in development of thermal, environmental, and life support systems for the Boeing CST-100 Starliner vehicle.

Andrew M. Lalich of SGT - Outstanding support to achieving payload science on the ISS and supporting human spaceflight.

John J. Lauterbach of GeoControls Systems, Inc. - Outstanding dedication to improving testing capabilities at JSC critical to the success of the James Webb Space Telescope Program.

Peter L. McCloud of ERC, Inc. - Exceptional technical performance, outstanding technical leadership, and exhibiting the core traits of NASA teamwork.

Eric D. McKee of Barrios Technology - Exceptional advancement as the key architect in the development of the NASA Docking System to extend the ISS capability for visiting spacecraft.

Dr. Joseph Olejniczak of NASA Ames Research Center - Outstanding leadership of the Orion aerosciences project, culminating in the successful Exploration Flight Test and collection of invaluable data for ensuring future crew safety.

Carlos Paine, Jr. of the U. S. Air Force - Outstanding financial management contributions and advocacy for operations, maintenance, and support of the Launch Test Ranges.

Dr. Wellesley E. Pereira of the U. S. Air Force Research Laboratory - Pioneering development of innovative space technologies, including a hypertemporal imaging space experiment and diffuse light modulation for advanced remote sensing.

Dr. Lorraine E. Prokop of NASA Johnson Space Center - Pioneering contributions to aerospace software engineering, including significant advances in human spaceflight software affordability.

Leslie N. Robertson of the Boeing Company - Outstanding technical knowledge and ingenuity in development and deployment of compiler, patch and review tools for the ISS Program, including training and support across ISS software development teams.



2015 Middle Career Stellar Award recipients. L to R: Tracy Caldwell-Dyson (presenting), Ismael Gonzales (Lockheed Martin), Robert Bardwell (The Boeing Company), Julie Kramer White (NASA Johnson), Renee Spinhirne (Lockheed Martin), Bryan Titus (USAF), Jeffrey Wiener (USAF), Mark Ricciardo (The Boeing Company), Edmund Taddey (UTC Aerospace Systems), Colin Sipe (Lockheed Martin), Kristi De Grys (Lockheed Martin), Randolph Bresnik (presenting) (NASA photo, 2015)

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inspire, enable
and **propel humanity.**



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and recognizing outstanding achievement.

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Jerry Ryzewski of Oceaneering Space Systems - Exceptional engineering and project management to the EVA Tools and Crew Aids team for NASA's One EVA program.

Sheila S. Sharp of the Boeing Company - Outstanding accomplishments in the leadership, mentorship and development of critical teams in the definition, design and integration of program requirements and resolution resulting in program progress, compliance and overall performance.

Erich Soendker of Aerojet Rocketdyne - Outstanding leadership and technical expertise in the application of Lithium-Ion battery technology to human spaceflight.

Bruce R. Sommer of Lockheed Martin - Outstanding human spaceflight contributions for improving ISS and Orion MPCV crew safety and ensuring mission success.

Dr. Michael B. Stenger of Wyle - Excellence and innovation furthering the understanding of cardiovascular adaptations to space flight and the resulting vision impairment/intracranial pressure syndrome.

Jesse J. Stieber of UTC Aerospace Systems - Exceptional career dedicated to advancement of aerospace thermal control component design supporting human spaceflight.

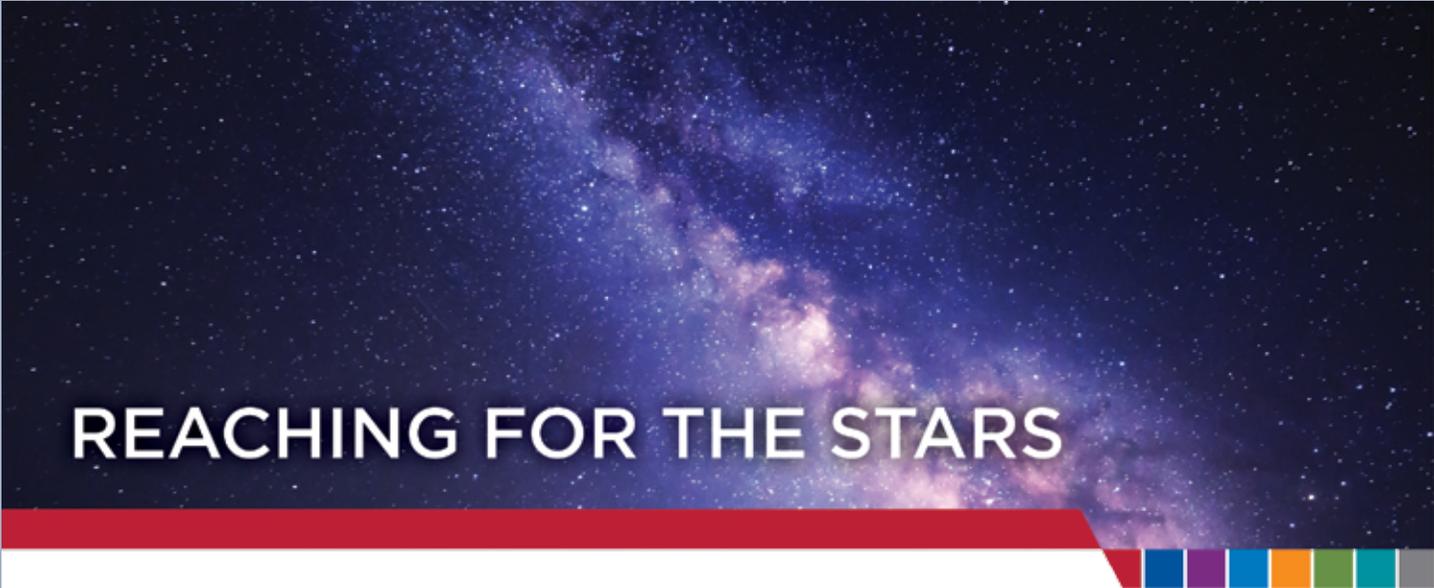
Jeremy M. Strange of UTC Aerospace Systems - Outstanding leadership in thermal, fluid, and chemical hardware design on manned Spacecraft platforms including Space Shuttle, Orion MPCV, Boeing CST-100.

Sean Vicary of L-3 Communications - Significant knowledge and expertise in software process and management applied to the deployment of safety-critical software projects.

Craig A. Williams of the Boeing Company - Exceptional leadership performance serving government programs in human spaceflight and United States military making significant contributions to NASA's International Space Station and the Space Launch System Program, including manufacturing, analysis, operations, engineering and safety, quality and mission assurance.

Andrew Zarechnak of Orbital ATK - Successful leadership of the integration of Cygnus and the Atlas V as part of Orbital ATK's Return to Flight Plan.

Douglas J. Zupan of UTC Aerospace Systems - Outstanding leadership, technical expertise of battery systems, and commitment to the safety and operational excellence of human spaceflight extravehicular activity.



REACHING FOR THE STARS

TASC congratulates Dr. Charles Elachi, this year's recipient of the National Space Trophy, for his dedication and contributions to space achievement. For more than 50 years, TASC has supported the nation's national security, civilian, and commercial space endeavors by making space utilization and operations more effective, reliable, and safe. We thank all of the Stellar Award nominees for their contributions to our nation's space program.

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LATE CAREER

Stellar Nominees

George Dickey Arndt of NASA Johnson Space Center - Outstanding dedication to exceptional electromagnetic technology development utilizing collaborations from within and outside the Agency.

Dr. Karatholuvu S. Balasubramaniam of the U. S. Air Force Research Laboratory - Pioneering research in solar magnetic fields, including successful development of magnetic field measurement systems to aid in Space Situational Awareness.

Garold A. Bates of Orbital ATK - Exceptional dedication and results-driven focus enabling successful static testing of SLS full-scale solid rocket boosters and other custom structural testing.

Robert V. Brazier of Aerojet Rocketdyne - Invaluable contributions and leadership in the production of liquid rocket propulsion in support of the advancement of America's space programs.

Michael J. Carney of NASA Kennedy Space Center - Outstanding leadership and unwavering dedication to mission success for NASA's robotic spacecraft through building a world-class launch vehicle analysis organization at the Kennedy Space Center.

Dr. Robert W. Clark, Jr. of the Boeing Company - Technical excellence and outstanding engineering support to NASA's Space Exploration missions, including promoting a culture of collaboration that drives teams to technical solutions.

Mark K. Craig of Science Applications International Corporation - Outstanding career of service to NASA dedicated to improving the value of human space exploration spanning Apollo, Space Shuttle, Space Station and beyond.

Daniel M. Dunlap of Orbital ATK - Exceptional technical leadership of the Orion Launch Abort Attitude Control Motor and a lifetime of NASA program support.

Daryl Ethington of Jacobs - Outstanding contributions to human space exploration, including dedication to crew safety and technical excellence in space environment chamber testing.

Wade C. Geiger of the Boeing Company - Outstanding contributions developing and implementing enhanced ISS Program utilization processes and capabilities to attract more researchers.

Stephen A. Giangrande of UTC Aerospace Systems - Successful design and development of critical life support systems for ISS, Orion Multi-Purpose Crew Vehicle, and the Boeing CST-100 Starliner.

Dr. David Goeken of L-3 Communications - Outstanding contributions to developing state of the art software applications used to create highly effective and cost-efficient solutions for astronauts and flight controllers.

David Hastman of Orbital ATK - Successful management of the production of the Cygnus spacecraft since the COTS program, and the production efforts of the CRS Return to Flight program.

Mark A. Henry of the Boeing Company - Exceptional technical leadership and contributions to human spaceflight berthing and docking system design, resulting in successful assembly and operation of the International Space Station.

Craig W. Irwin of Aerojet Rocketdyne - Outstanding leadership and technical management as systems engineering lead for the RL10C-1 program.

Torrance J. Lambing of NASA Kennedy Space Center - Superior efforts to transform the Kennedy Space Center into a multiuser spaceport.

Dr. Geoffrey A. Landis of NASA Glenn Research Center - Exceptional technical achievements and leadership in developing photovoltaic power systems and advanced concepts in support of NASA missions.

Peter Levy of the Boeing Company - Outstanding dedication to technical excellence, leadership, and mentorship of the next generation of systems engineers, throughout a long career in NASA space programs, missile defense industry, and systems of systems engineering.

Tod Lewis of UTC Aerospace Systems - Exemplary technical design and leadership skills for NASA's most critical human space programs, including ISS and the extravehicular mobility unit.

Michael Melgares of Jacobs - Exceptional services spanning from the Apollo Program through Orion, demonstrating technical and leadership excellence.

Nathan L. Miller of the Boeing Company - Technical integrity and system architecture expertise that has enabled more cost effective and schedule sensitive design solutions for SLS and other new development space programs.

Andrea B. Mosie of GeoControls Systems, Inc. - Dedicated curation of lunar samples, enabling a continuing legacy of discoveries about the Earth-Moon system and keeping alive the excitement of the Apollo missions.

Lawrence A. Price of Lockheed Martin - Outstanding leadership and international collaboration to take the Orion Program from development to space flight vehicles for NASA's human Exploration Missions.

Fernando Quinonez of the Boeing Company - Outstanding technical leadership contributing to the completion the international docking adapters for ISS.

Shakeel S. Razvi of NASA Johnson Space Center - Outstanding sustained efforts related to the establishment of a comprehensive Orion Test and Verification plan.

Donald Lance Spiers of the Boeing Company - Significant achievements in manned spaceflight for both the Shuttle Space Transportation System and the development of the Space Launch System.

Michael P. Stewart of NASA Johnson Space Center - Outstanding career contributions to Federal and Agency Human Resources Information Systems, resulting in design and implementation of highly effective and efficient systems.

Greg Stonesifer of UTC Aerospace Systems - Exceptional technical skills and leadership in ensuring safe extravehicular activity capability.

Sharon L. Thomas of NASA Johnson Space Center - Significant impact and guidance that enabled risk-informed decision making critical to senior NASA management.

Ronald Urquidi of Aerojet Rocketdyne - Outstanding technical contributions to NASA's human spaceflight program, from Saturn I to the Space Launch System.



2015 Late Stellar Award recipients. L to R: Randolph Bresnik (presenting), Eric Christiansen (NASA Johnson), George Cain (Lockheed Martin), Brian Keller (Orbital ATK), David Copeland (The Boeing Company), John Jordan (Orbital ATK), Mark Geyer (NASA Johnson), Mark Caron (UTC Aerospace Systems), Tracy Caldwell-Dyson (presenting) (NASA photo, 2015)

STELLAR TEAM

Stellar Nominees

Automated Navigation and Guidance Experiment for Local Space (ANGELS) Program Team of the U. S. Air Force Research Laboratory - Outstanding team achievement in evolving the Air Force's ability to responsively perform Space Situation Awareness missions.

Cargo Processing Team of Lockheed Martin - Outstanding achievement in providing maximum manifest flexibility to the International Space Station Program after losing three cargo resupply vehicles in a short time period.

Collision Avoidance System Development Team of a.i. solutions - Outstanding development, test, and early transition to operations of the ISS Collision Avoidance System.

Commercial Crew Transportation System Environment, Health & Safety (EHS) Team of Boeing- Significant team contributions to the successful implementation of a robust health and safety program for the Commercial Crew Transportation System.

Crew Dragon Docking System Team of SpaceX - Technical excellence in the rapid design and qualification of an innovative docking system for the Crew Dragon spacecraft.

Dynamics Event Working Group (DEWG) of Booz Allen Hamilton - Exceptional dedication, hard work, and technical excellence in optimizing ISS dynamic events resulting in huge propellant savings, significantly reducing analysis, streamlining operations and promoting life extension of sensitive ISS elements.

Enhanced Polar System (EPS) Gateway (GW) Team of the United States Air Force - Outstanding sustained performance in delivery of the Enhanced Polar System Gateway Segment on schedule, within cost, and on track to meet all requirements.

EFT-1/Orion Aerojet Rocketdyne Propulsion Team of Aerojet Rocketdyne - Outstanding team dedication and attention to detail during development, production, flight readiness, and flight, resulting in significant achievement on Orion EFT-1 and paving the way for advanced future space activities.

Facility Water Purification System Design and Implementation Team of SGT - Successful development of an improved facility de-ionizing filtration water system in response to the EVA 23 mishap investigation board.

Fan/Pump/Separator Bearing Corrosion Anomaly Resolution Team of UTC Aerospace Systems - Outstanding achievement in preparation for and execution of a contingency EVA to eliminate an ammonia leak that jeopardized the International Space Station.

Genes in Space (GiS) Team of Boeing- Outstanding ingenuity in the creation and execution of a STEM competition to promote DNA science, genetics, and biotechnology using the unique environment of the International Space Station.

Green Propellant Propulsion Team of Aerojet Rocketdyne - Successful development and delivery of the first AF-M315E green propellant propulsion system for the GPIM flight experiment.

Gulfstream-III (G-III) Airborne Microwave Observatory of Subcanopy and Subsurface (AirMOSS) Team of NASA Johnson Space Center - Outstanding achievements to help determine the overall global carbon exchange to better understand the impacts on global climate change.

International Space Station Hardware Recovery Team for Launch on HTV-5 of Boeing - Outstanding team achievement in quickly accelerating manufacture and test of hardware, and rebuilding several criti-

cal hardware items for on-time delivery to meet the HTV-5 launch, support on-orbit operations, and support crew health and safety.

MCC21 Project Implementation Team of Lockheed Martin - Successful delivery of the next generation Mission Control Center, instantiating NASA's operations vision for ISS and future mission support.

Miniature Exercise Device (MED) Project Team of NASA Johnson Space Center - Excellence in engineering in defining, designing, and building an innovative new miniature exercise device for flight in an extremely short development cycle.

NASA Docking System Environmental Seals Team of NASA Glenn Research Center - Exceptional achievement in developing and demonstrating advanced environmental seal design for the International Low Impact Docking System.

NASA GRC Orion Exploration Flight Test 1 (EFT-1) Team of NASA Glenn Research Center - Significant contribution in the structures domain to the successful Exploration Flight Test 1 design, development, and test.

OA-4 Return to Flight Team of Orbital ATK - Outstanding technical and management excellence in providing timely reinstatement of Cygnus cargo resupply services to the ISS.

Orion Environmental Test Team of NASA Glenn Research Center - Innovative approaches, creative solutions, and tireless dedication, resulting in the creation of the world's largest and most powerful space environment simulation capability.

Orion EFT-1 Post-Flight Data Analysis Team of Lockheed Martin - Exemplary orchestration of the EFT-1 flight data analyses that leveraged successful data evaluation and utilization for the design, analysis, test, and assembly of the Orion spacecraft for future Exploration Missions.

Orion EM-1 Critical Design Review Team of Lockheed Martin - Excellence in preparation, execution and follow through of the Orion Exploration Mission Critical Design Review that resulted in NASA's authorization to proceed to spacecraft production.

Pendulum Team of NASA Johnson Space Center - Outstanding team effort in mitigating the Orion pendulum motion anomaly.

Prototype Exploration Suit Development Team of Oceanering Space Systems - Outstanding achievement in the rapid design, development, manufacturing, and testing of a new spacesuit capability for future space exploration destinations.



2015 Team Stellar Award recipients. L to R: Tracy Caldwell-Dyson (presenting), Tim Priser (Maven Mission Team, Lockheed Martin), Carolyn Mercer (Solar Power for Electric Propulsion Team, NASA Glenn), Brian Beal (Advanced Extremely High Frequency Hall Thruster Team, USAF Research Laboratory), Laura Isaacs (Active Thermal Control System Pump Module Anomaly Resolution Team, The Boeing Company), Mark Kirasich (Orion EFT-1 NASA Management Team, NASA Johnson), Jim Bray (Orion Hardware Development Team, Lockheed Martin), Roger McNamara (Orion EFT-1 Industry Team, Lockheed Martin), Lee Rosen (Falcon 9 Launch Operations Team, SpaceX), Maria Collura (Commercial Crew Transportation Capability Source Evaluation Board, NASA Kennedy), Randolph Bresnik (presenting)
Not pictured: Thomas Flatley (Spacecube Team, NASA Goddard) (NASA photo, 2015)

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2016 Rotary National Award for Space Achievement

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Dr. Charles Elachi

ARES Corporation celebrates the 30th Anniversary of the Rotary National Award for Space Achievement (RNASA) Foundation and congratulates Dr. Charles Elachi for outstanding leadership and dedication to the advancement of U.S. human space exploration.



Range Network Sustainment Team of the U. S. Air Force - Successful 15-year consolidation of the \$1.9B Spacelift Range System Maintenance Contract, cementing an effective Spacelift enterprise advancement.

Remote Sensing Exploitation Capability Team of the U. S. Air Force - Exceptional development, demonstration, and transition of responsive remote sensing exploitation and dissemination capabilities for the benefit of the nation.

Responsive Environmental Assessment Commercially Hosted (REACH) Team of the U. S. Air Force - Successful launch preparation of the Responsive Environmental Assessment Commercially Hosted (REACH) to demonstrate the feasibility of hosted payloads for future Air Force missions.

RS-25 Engine Test Team of Aerojet Rocketdyne - Successful completion of the first developmental test series on the RS-25 engine that will power NASA's new SLS rocket.

Space Launch System Acoustics Resolution Task Team of Boeing - Successful use of state of the art modeling techniques to identify new vibration environments and significantly mitigate risks to the Space Launch System program budget and schedule.

SLS Systems Engineering, Integration and Test (SEIT) Requirements and Verification (R&V) Team of Boeing- Successful reduction of non-recurring costs and development time for the SLS Core Stage Vehicle through a requirements approach leveraging previous development to enable the timeline necessary for SLS beyond earth orbit missions.

Space Launch System Base Heating Test Team of NASA Marshall Space Flight Center - Outstanding execution of the Space Launch System ATA-002 vehicle base heating wind tunnel test.

Space Situational Awareness (SSA) Intelligence Team of the U. S. Air Force Research Laboratory - Innovative development of new techniques, algorithms and strategies for characterizing, identifying and maintaining custody of space objects and employment of ground and space sensors.

Space Test Program – Houston External Payload Series Team of the U. S. Air Force - Successful leveraging of a collaborative effort to maximize space tests across Air Force and NASA research on the International Space Station.

STAR 48GXV Development Team of Orbital ATK - Successful development of a next-generation, high performance solid upper stage motor for space stage uses.

Thank You & Congratulations
Dr. Elachi



GEOCONTROL SYSTEMS, INC.

DR. CHARLES ELACHI

2016 National Space Trophy Recipient

(continued from page 4)

Space-based astronomy has also been an important segment of JPL's work under Dr. Elachi. These missions have included the Galaxy Evolution Explorer, a spacecraft equipped with an ultraviolet telescope to study other galaxies; the Spitzer Space Telescope, a major infrared telescope returning science in a wide variety of disciplines; Kepler, a mission that has discovered hundreds of planets orbiting other stars; Planck and Herschel, observatories launched by the European Space Agency with important contributions from NASA and JPL; the Wide-field Infrared Survey Explorer, an infrared observatory that went on to focus on cataloging near-Earth objects; and the NuSTAR mission, an X-ray telescope seeking black holes.

California Institute of Technology

In addition to his JPL role, Dr. Elachi has served as Vice President of the California Institute of Technology, which staffs and manages JPL for NASA. Dr. Elachi taught the Physics of Remote Sensing from 1982-2000 and serves as a Professor of Electrical Engineering and Planetary Science. As a research scientist, he has authored more than 200 publications in the fields of active microwave remote sensing, wave propagation and scattering, electromagnetic theory, lasers and integrated optics.

Awards and Committees

Dr. Elachi has been a member of the National Academy of Engineering since 1989 and has received numerous awards and medals, both in the United States and internationally. These include the NASA Exceptional Scientific Achievement Medal and Outstanding Leadership Medal, the COSPAR Nordberg Medal, the German Wernher Von Braun Award, the Nevada Medal, and the Dryden Medal. The Takeda Foundation of Japan awarded him its medal for his work in developing space radar instruments to monitor the global environment. He also has an asteroid named after him: 4116 Elachi. In 2007, U.S. News and World Report named Dr. Elachi one of America's Best Leaders. Dr. Elachi is a member of the UCLA Sciences Board of Visitors, the



Hiking at Mammoth Mountain. L to R: Charles Elachi, spouse Valerie Elachi; grandson Chuckie; granddaughter Lily; son-in-law, Chuck Lowen; daughter, Joanna Lowen

(Elachi Photo)

Huntington Hospital Board of Trustees (Pasadena), and the chair of the Lebanese American University Board of Trustees (New York/Beirut). He also serves as a member of the visiting Committee, Department of Aeronautics and Astronautics visiting committee at MIT.

Family

Dr. Elachi and his wife, Valerie Gifford, have two daughters, Joanna and Lauren. He enjoys skiing, reading and traveling.

He said, "I'm honored to receive the National

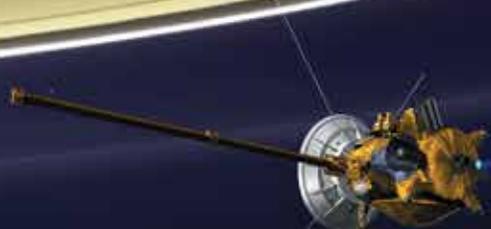
Space Trophy from this prestigious organization. I feel so fortunate to be involved in space exploration during an extremely exciting time when we are rewriting science books, fulfilling humanity's innate quest for discovery, and bringing tangible technology and science advances back to Earth. I am grateful for the invaluable contributions of the teams of dedicated and immensely talented men and women I've worked with through the years."



Dr. Elachi with wife, Valerie Gifford and daughter, Lauren.
(Elachi Photo)

C O N G R A T U L A T I O N S

to the 2016 Stellar Award Winners and this year's National Space Trophy Recipient:



DR. CHARLES ELACHI

2016 NATIONAL SPACE TROPHY RECIPIENT

We salute your many achievements and dedicated leadership that have helped extend mankind's reach farther into our solar system and beyond!



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