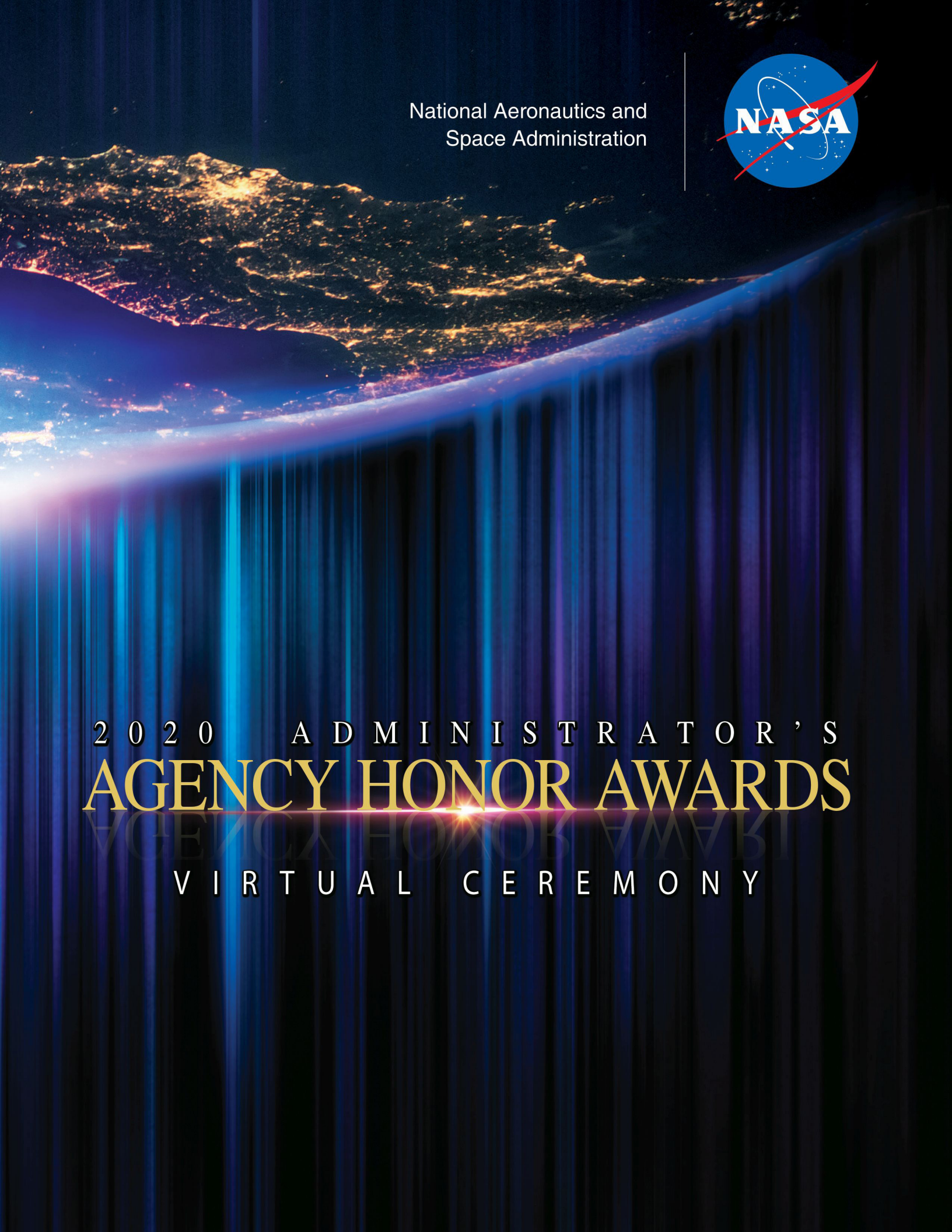

National Aeronautics and
Space Administration
NASA
2020 ADMINISTRATOR'S
AGENCY HONOR AWARDS
VIRTUAL CEREMONY

Foreward

Message from the NASA Administrator
2020 Agency Honor Awards

NASA is delivering on our promise to the American people. The milestones we've surpassed this past year are directly correlated to the work of many outstanding individuals across the agency and our team's unmatched talent. Success should never be taken for granted, and that is why I am privileged to help honor those whose devotion and commitment enabled such remarkable mission excellence.

Despite an unprecedented worldwide pandemic, our agency provided much needed hope and inspiration to the nation by launching American astronauts to the International Space Station on American rockets from American soil for the first time since 2011, and we recently completed a second successful launch. Our Mars Perseverance Rover also launched this summer and now is over halfway to the Red Planet, carrying state-of-the-art scientific demonstrations. In addition, many of you went out of your way to develop ventilators and other resources needed to fight COVID-19.

None of this would be possible without our tens of thousands of dedicated civil servants and contractors. These milestones are great by themselves, but when you consider that many of us replaced the office for our kitchen table this year – all while balancing changing family needs – these accomplishments become incredible.

This year, we also propelled our Artemis program closer to our goal of landing the first woman and next man on the Moon. Essential hardware development for deep space transportation hit multiple milestones this year. The Orion spacecraft for Artemis I was completed, and the Space Launch System rocket is nearing final testing. Equally important, nine countries signed the Artemis Accords this year, several international partners agreed to help us build the Gateway, and we continue to enjoy significant bipartisan support from Congress. Our complete list of achievements this year is really quite amazing.

Today, we recognize those among us whose meritorious careers demonstrate work worthy of the world's most preeminent spacefaring organization; in fact, their achievements and dedication to excellence make us what we are as an agency today. I join with our whole agency in congratulating them on this well-deserved recognition.

I am deeply grateful for the daily devotion of these honorees. Their exemplary careers have taught us how to accomplish our missions, no matter how challenging. I am confident their legacy will continue to help NASA lead humanity farther into space than ever before, inspiring the next generation – the Artemis Generation – of explorers with every great success.

Thank you!

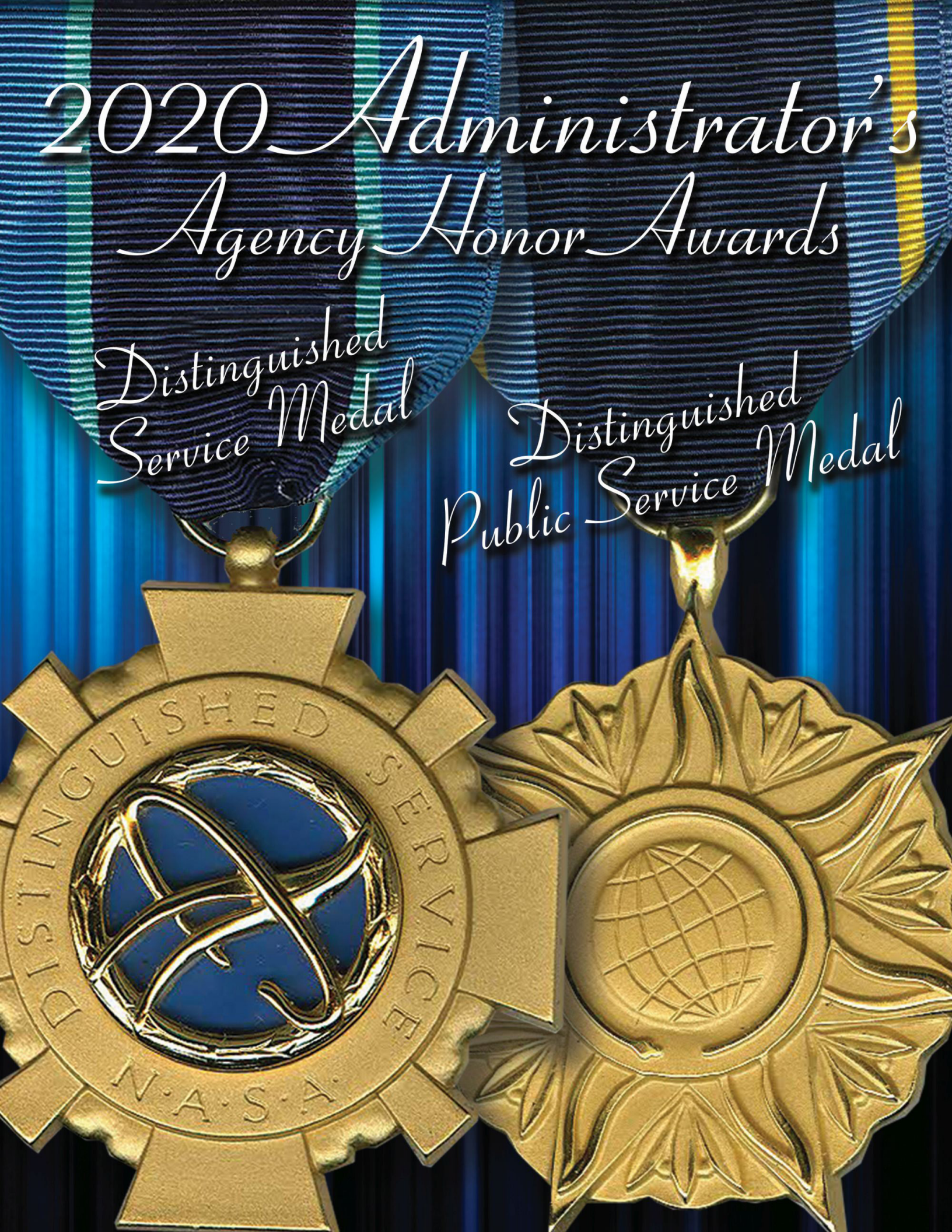
Ad astra

Jim

2020 Administrator's Agency Honor Awards

Distinguished Service Medal

Distinguished Public Service Medal



Program

Opening ..... **Jim Morhard**
NASA Deputy Administrator

Welcome..... **Joel Montalbano**
International Space Station (ISS) Program Manager

Opening Remarks..... **Jim Morhard**
NASA Deputy Administrator

Presentation of Distinguished Honors by Center

Ames Research Center ..... **Eugene Tu**
Center Director

Armstrong Flight Research Center ..... **David McBride**
Center Director

Goddard Space Flight Center ..... **Dennis Andrucyk**
Center Director

NASA Headquarters ..... **Melanie Saunders**
Deputy Associate Administrator

Jet Propulsion Laboratory ..... **Michael Watkins**
Director

Johnson Space Center ..... **Mark Geyer**
Center Director

Kennedy Space Center ..... **Robert Cabana**
Center Director

Langley Research Center ..... **Clayton Turner**
Center Director

Marshall Space Flight Center ..... **Jody Singer**
Center Director

Closing Remarks..... **Joel Montalbano**
ISS Program Manager

Distinguished Service Medal

This is NASA's highest form of recognition that is awarded to a Government employee who, by distinguished service, ability, or vision, has personally contributed to NASA's advancement of United States' interests. The individual's achievement or contribution must demonstrate a level of excellence that has made a profound or indelible impact on NASA mission success, and therefore, the contribution is so extraordinary that other forms of recognition by NASA would be inadequate.

Charles M. Allen

Charles W. Bauschlicher

Jeffrey V. Bowles

Andrew C. Bundy

Michael J. Carney

Al Condes *

Dr. Brian R. Dennis

Bryan A. Fafaul

James R. Frees

William Gerstenmaier *

Dr. Jeffrey A. Hinkley

Dr. Michael G. Houts

Dr. David G. Johnson

Dr. Smith L. Johnston

Mark A. Kirasich

Dr. John C. Lin

Daniel D. Mazanek

Dr. Ronald C. Merrell *

George Morrow *

Dr. Michael J. Mumma

Dr. Malcolm Niedner, Jr.

Dr. Claire L. Parkinson

Dana D. Purifoy

Dr. Millard F. Reschke

Penny E. Roberts

Robert H. Rutherford

Kirk A. Shireman

Joel R. Sitz

Darrell D. Slone

Dan Tenney *

Robert A. Tepfer

Dr. Sheila A. Thibeault

Kenneth O. Todd

David Craig Tupper

Dr. Eugene K. Ungar

Dr. William R. Van Dalsem

Robert A. Yaskovic

** The Agency Honor Award was awarded between May 11, 2019, and June 1, 2020, outside the normal awards cycle.*

Distinguished Public Service Medal

This is NASA's highest form of recognition that is awarded to any non-Government individual or to an individual who was not a Government employee during the period in which the service was performed, whose distinguished service, ability, or vision has personally contributed to NASA's advancement of United States' interests. The individual's achievement or contribution must demonstrate a level of excellence that has made a profound or indelible impact on NASA mission success, and therefore, the contribution is so extraordinary that other forms of recognition by NASA would be inadequate.

Charles L. Boehl

Ronald F. Dantowitz

Dr. George Helou

Larry A. Johnson

Alan D. Joynt

Dr. Christopher Justice

Dr. Renjith R. Kumar

Lon F. Miller

Dr. Joseph G. Musick

Dr. Ashot E. Sargsyan

Dr. B. Thomas Soifer

Ray N. Sparks

Dr. Bobby G. Williams

A. Thomas Young

Presentation of Awards by Center

Click the name to be directed to the Honoree page, and the Home icon to return to this page.

Ames Research Center

Charles (Charlie) Bauschlicher
Jeffrey Bowles
Dr. William R. Van Dalsem

Armstrong Flight Research Center

Dana Purifoy
Joel Sitz

Goddard Space Flight Center

Dr. Brian Dennis
Bryan Fafaul
Dr. Christopher Justice
Dr. Michael Mumma
Dr. Malcolm Niedner, Jr.
Dr. Claire Parkinson
Dr. Bobby Williams

NASA Headquarters

Al Condes
William Gerstenmaier
Dr. Jeffrey Hinkley
Dr. Ronald Merrell
George Morrow
Darrell Slone
Dan Tenney
David Craig Tupper
Thomas Young

Jet Propulsion Laboratory

Dr. George Helou
Dr. Thomas Soifer

Johnson Space Center

Charles Boehl
Larry Johnson
Dr. Smith Johnston
Mark Kirasich
Lon Miller
Dr. Millard Reschke
Penny Roberts
Dr. Ashot Sargsyan
Kirk Shireman
Robert (Bob) Tepfer
Kenneth Todd
Dr. Eugene Ungar

Kennedy Space Center

Andrew Bundy
Michael Carney
Robert Yaskovic

Langley Research Center

Ronald Dantowitz
Dr. David Johnson
Dr. Renjith Kumar
Dr. John Lin
Daniel Mazanek
Dr. Sheila Thibeault

Marshall Space Flight Center

Mark Allen
James Frees
Dr. Michael Houts
Alan Joynt
Dr. Joseph Musick
Robert Rutherford
Ray Sparks

Distinguished Service Medal Recipients

Distinguished Service Medal

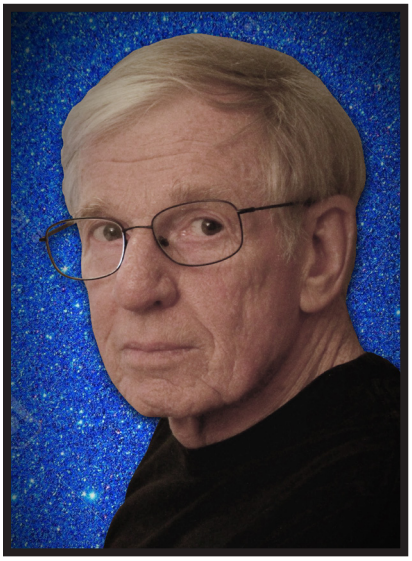
Charles Mark Allen

For conceiving and implementing an innovative game-changing manufacturing quality process resulting in years of sustained cost and schedule savings for the aerospace industry.

Mr. Charles Mark Allen contributed to a very small team of quality engineers that conceived and implemented an innovative new system to assure and improve the quality of space flight hardware while saving prime contractors valuable manufacturing time and costs. The Risk Based Assessment (RBA) and In-Line Assessment (ILA) quality system have become the manufacturing quality standard for both the Booster Element and Liquid Engine Offices of the Space Launch System (SLS) program. The RBA/ILA system substantially reduced the need for Government Mandatory Inspections (GMI) and replaced them with ILAs based on the risk level identified by the RBAs. Due to Mr. Allen and the quality engineering team, GMIs were decreased from over 1,400 per solid rocket motor to less than 70, reducing halts in manufacturing, and saving Northrup Grumman Innovation Systems (NGIS) and NASA upwards of $1 million per solid rocket motor.

The GMI system was satisfactory during the Space Shuttle era, but Mr. Allen envisioned a better path that could benefit all parties. His strategy included government inspectors interfacing with and enabling NASA industry partner involvement during the manufacturing process rather than serving as “checkers” that only showed up at the end. By engaging government engineers and inspectors preemptively as part of the planning and manufacturing team, NASA’s contractor partners leveraged their years of expertise and efficiencies in both manufacturing and inspection. This approach has enabled NASA’s contractor partners to have virtually uninterrupted manufacturing, saving them and the government crucial schedule time and resources. Mr. Allen personally developed a database tool used in the formulation of RBAs and ILAs for virtually any type of hardware. This complex, yet user-friendly, tool quantifies hardware quality trends and enables the users to adjust risk levels based upon these trends. It is currently being utilized daily by Marshall Space Flight Center Safety and Mission Assurance for SLS and the Artemis program at Promontory, Utah and Kennedy Space Center. NGIS continues to reap substantial benefits by using the tool Mr. Allen created and introduced, as they are able to maintain a steady manufacturing process flow with fewer interruptions for GMIs. Through Mr. Allen’s concerted efforts, the government customer has become part of the manufacturing and quality process, now focusing on critical production processes as opposed to verifying single inspection points, which has resulted in an overall higher quality, safer product with increased efficiency.

Mr. Allen has brought game-changing innovation and quality to SLS hardware manufacturing. He was instrumental in the creation of both the RBA/ILA system and the tool that teams at Marshall Space Flight Center Safety and Mission Assurance use daily to quantify and track risks and assessments of SLS booster hardware during manufacture. His significant technical contributions positively affected the quality of booster hardware and saved NGIS, NASA, and the American taxpayer millions of dollars. Mr. Allen’s actions and innovation will continue to have a direct impact on improving the success of SLS, Artemis, and future manned space flight programs for years to come.



Distinguished Service Medal

Charles W. Bauschlicher

For distinguished service in the advancement and application of the field of quantum chemistry for space science and technology initiatives.

Mr. Charles (Charlie) Bauschlicher has been a guiding force in the theoretical development and practical application of quantum chemical techniques for NASA missions for the past 40 years. He has written over 650 papers, is referenced in numerous chemistry textbooks, and is renowned as one of the most cited theoretical chemists globally. His most impressive accomplishment cannot be summarized succinctly, as it is the significant impact his work has had on numerous NASA missions. Recruited by former NASA Deputy Administrator, Hans Mark, Mr. Bauschlicher spearheaded pioneering initiatives utilizing supercomputing resources in the 1980s to standardize the accuracy of quantum chemical techniques and codes. His early efforts enabled him to apply quantum chemical techniques to practical problems to advance NASA science missions for the U.S. civilian space program.

Among Mr. Bauschlicher's many accomplishments are 2 particularly notable contributions to astrochemistry and entry systems. He provided crucial evidence supporting the astrochemistry theory of the prevalence of polycyclic aromatic hydrocarbon (PAH) emission features in the infrared (IR) bands of astronomical spectra. His systematic use of quantum chemistry to characterize PAH spectra led to the NASA ARC PAH IR Spectroscopic Database, which is the current standard for providing reference frequencies for emission spectra. This revolutionized the refinement and interpretation of the noisy IR regions of astronomical spectra and has provided access to information on the chemical composition and physical conditions in deep space, benefiting countless science initiatives. With respect to entry systems, Mr. Bauschlicher was one of the first to apply computational chemistry to understand shock layer radiation spectra, which is crucial to calculating space vehicle heating during atmospheric entry. His successful prediction of such radiation signatures has improved the speed and certainty with which thermal protection systems can be tailored to specific atmospheres, and this remains one of his active areas of research today.

Mr. Bauschlicher's accomplishments and contributions continue to grow. More recently, he influenced nanoscience, elaborating new possibilities for high-byte/area chemical storage using fluorine and hydrogen atoms on diamond surfaces. In addition, his contributions have led to breakthroughs in electrolytes that have improved decomposition stability against oxygen and brought rechargeable high-power lithium-air batteries a step closer to fruition. He is also the driving force behind numerous materials science advancements, including characterization of coatings for extreme conditions leading to new formulations with improved oxygen corrosion resistance that extend the lifetime of turbine blades.

Mr. Bauschlicher's curiosity for scientific discovery and drive for efficiency have made his work foundational to his field, an inspiration for early career investigators, and an advantage to NASA and the Nation. Colleagues know him as an unbiased and nonjudgmental source of knowledge, a spirited and logical debater who often cuts to the crux of the matter, and an insightful leader who tells you what you need to know, which is not always what you want to hear. The Distinguished Service Medal is the appropriate acknowledgment of Mr. Bauschlicher's long career advancing and applying quantum chemistry for the benefit of NASA's goals and national objectives.

Distinguished Service Medal

Jeffrey V. Bowles

For a lifetime of contributions and innovations that have revolutionized NASA's analysis capabilities in aerospace vehicle and mission design.

Mr. Jeffrey Bowles has dedicated over 48 years of distinguished service to NASA, guiding program and project managers throughout his career with his knowledge of conceptual vehicle design and analysis. His contributions have steered the direction of missions and increased success for numerous NASA aerospace and human space flight programs, including X-Plane, Space Launch Initiative, Commercial Crew, and Orion. He developed some of the first vehicle design analysis codes at NASA for general aviation systems, reusable launch systems, reentry systems, and airbreathing hypersonic vehicles. He authored the Hypersonic Aircraft Vehicle Optimization Code (HAVOC), a design tool that was used for space launch system analysis studies for over a decade, guiding NASA design and policy decisions. He secured a major role for Ames Research Center in the National Aerospace Plane program, which significantly improved our understanding of advanced material development, scramjet propulsion, and aerospace design in the 1980s and 1990s.

While serving as a subject matter expert during the vehicle selection process of the sequestered 2nd Generation Reusable Launch Vehicle program, program lead Dr. Charles Smith stated that Mr. Bowles' technical knowledge was instrumental in the selection of contractors and his contributions were invaluable to the program. Mr. Bowles pioneered a new, rapid-turnaround technique for thermal protection system design that is still used today, enabling mission success by creating accurate databases for numerous NASA programs including lunar and Mars sample return studies, the commercial orbital transportation system flight demonstrations X-33 and X-34, and other planetary entry, descent, and landing systems studies.

In 2008, Mr. Bowles provided critical leadership to the team that developed the baseline thermal protection system design for today's Orion capsule, setting the stage for its successful maturation. More recently, his insightful design analysis work for the Ultra-Efficient Subsonic Transport project was specifically highlighted at NASA Headquarters for its instrumental role in a key ARMD strategic decision that saved the Agency a significant amount of resources, money, and time.

Mr. Bowles co-developed the Configuration-Based Aerodynamics (CBAERO) software package, which predicts the aerodynamic and aerothermodynamic environments of general vehicle configurations and received NASA's 2014 "Software of the Year" award. He also shares a patent for the Co-Optimization of Blunt-body Reentry Analysis invention, a design optimization method for hypersonic vehicles that enter or operate in planetary atmospheres. Both of these are mission-critical analysis tools that have directly impacted NASA's current human space flight programs, including the Orion spacecraft.

With nearly 50 years of leadership and technical guidance that redefined systems analysis of general aviation aircraft, hypersonic aircraft, reentry and launch vehicles, Mr. Bowles transformed the future for aerospace vehicles and technology advancements, not just within NASA, but throughout the domestic aerospace industry. With a wealth of knowledge in airbreathing hypersonic propulsion, and system and mission design, Mr. Bowles has inspired countless professionals through his many years of collaborations with and mentorships of young engineers. For his exceptional dedication and revolutionary contributions, Mr. Bowles is truly deserving of the Distinguished Service Medal.

Distinguished Service Medal

Andrew C. Bundy

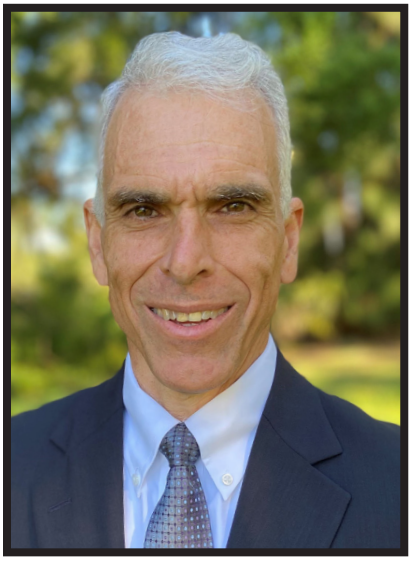
For 30 years of engineering technical expertise and leadership in Flight Avionics Systems, Guidance, Navigation and Flight Controls, and division management.

Mr. Andrew Bundy has made a profound and indelible impact on NASA mission success, providing 30 years of engineering technical expertise and leadership in-flight avionics systems and Guidance, Navigation, and Control (GN&C). He has demonstrated distinguished service and sustained excellence throughout his NASA career as GN&C systems engineer, Branch Chief, Avionics Deputy Division Chief, and currently, Commercial Systems Deputy Division Chief. He contributed to the mission success of the Space Shuttle Program (SSP), Launch Services Program (LSP), and Commercial Crew Program (CCP). In his current role as Commercial Systems Division Deputy Chief, Mr. Bundy provides Technical Authority and leads a team of engineers supporting LSP and CCP avionics, electrical, mechanical, propulsion, and ordnance systems.

Mr. Bundy has served as an LSP avionics expert for 14 missions as well as a critical Engineering Review Board member for several iconic missions. He was instrumental in the successful launch of the Parker Solar Probe mission to study the outer corona of the Sun, an extremely challenging mission due to the unique third stage guidance and navigation system. Mr. Bundy coordinated engineering support and evaluated solutions for the Ionospheric Connection Explorer mission and he serves as the primary avionics expert for the future space observatory, Imaging X-ray Polarimetry Explorer, and the planned Landsat 9 Earth observation satellite. He was an Engineering Review Board member for the certification of the Falcon 9 launch vehicle, current efforts to certify a reuse booster, and the ongoing efforts to certify the world's most powerful rocket, Falcon Heavy.

Mr. Bundy maintains engineering authority for the CCP ground and mission operations, launch vehicle, and spacecraft offices. He has been instrumental in realigning engineering resources to support the ever-changing challenges developing with two providers. Mr. Bundy travels monthly between Marshall Space Flight Center and Kennedy Space Center to ensure the effectiveness of discipline leadership as they work to keep up with increasing demands to support the ramp-up of assessment and certification efforts associated with the initial SpaceX and Boeing CCP launch campaign efforts, as well as preparations for the second SpaceX and Boeing launches.

Previously, as Avionics Deputy Division Chief, he supported the avionics systems for the SSP, ISS, Ground Systems Development Office, and LSP. He developed a tool to allow the Avionics Division management team to ensure adequate support and the right skills were allocated to the programs and projects, and prevented significant impacts of delivering Avionics products to the specific program. Mr. Bundy's exemplary service resulted in the success of nearly 100 Space Shuttle missions, which included many historically-significant missions such as Endeavour's first flight, Hubble Space Telescope servicing, the first Mir rendezvous, and numerous Spacelab missions. Mr. Bundy has established himself as an outstanding leader and technical manager, and his ability and vision have personally contributed to NASA's advancement of U.S. interests.



Distinguished Service Medal

Michael J. Carney

For distinguished and extensive contributions to NASA by providing expert analyses for over 200 robotic space missions on expendable, and now also reusable, launch vehicles.

Mr. Michael Carney has exhibited an unwavering dedication to mission success throughout his 36 years of flight analysis experience for both expendable and reusable launch vehicles. He began his career with NASA at Lewis Research Center (now Glenn Research Center) and quickly became an expert in the field of flight analysis. As the Chief of the Flight Analysis Division within the NASA Launch Services Program (LSP), Mr. Carney established a world-class capability in launch vehicle flight analysis that is recognized and sought by government and industry.

Mr. Carney came to LSP in 1998 when the Program was consolidated at Kennedy Space Center (KSC) from other Centers to handle the acquisition, management, and mission assurance for all launch vehicles conducting NASA robotic missions. This was the first major Program to be established at KSC, and the work was comprised primarily of functions that had never been performed locally. The most complicated and critical disciplines in rocket science needed to be built and developed across multiple expendable rocket fleets to enable mission success for NASA's critical science missions, with a continuous workload of 40 missions. The capabilities that he developed encompass flight design, environments, loads, electromagnetic interference/electromagnetic compatibility, thermal, structures, stress, strength, nuclear launch approval, and GN&C.

Mr. Carney built a talented team of 80 analysts with expertise on spacecraft launch vehicles. The strength of his persuasive character and leadership abilities was demonstrated as he convinced core discipline experts to move to KSC, so that he could have a foundation on which to build local capability and to ensure mission success during the critical transition time. He has built and maintained his team using both civil servants and contractor personnel, seeking whichever provides him with the optimal skill set. He has always set the bar high for performance by establishing clear goals, and consistently providing encouragement, guidance, support, and recognition.

Mr. Carney's team has provided mission support in all analytical disciplines to customers across the Agency, often years before a launch service is selected. This enables spacecraft projects to be better prepared as they move from the concept phase into launch service procurement, development, integration, and launch. This first-rate team has performed independent trajectory analyses for some of the most critical satellites launched by NASA, including the Mars Reconnaissance Orbiter, the Pluto New Horizons space probe, the Mars Curiosity, and the Mars rovers, Spirit and Opportunity. The launch service contractors continually look to the analysis expertise within Mr. Carney's group to solve the most challenging problems. His team was the primary force behind resolution of issues on the Delta II Heavy launch vehicle, as well as the discovery and fix of software errors on the Pegasus satellite. Mr. Carney continues to apply the superior skills he demonstrated in building a world-class analysis organization for LSP by assisting the human space flight programs that are now using the same launch vehicles. He goes above and beyond the normal call of duty to provide exceptional support and he is exceedingly deserving of this Distinguished Service Medal.

Distinguished Service Medal

Al Condes

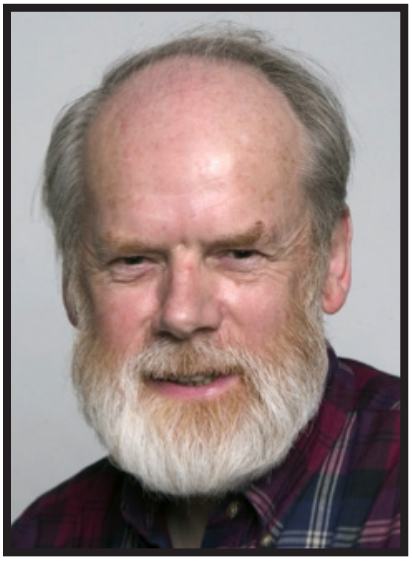
For distinguished service, extraordinary contributions, and outstanding leadership to NASA's mission and the Nation's space program.

Mr. Al Condes's exceptional service through distinguished leadership as the International Agreements Manager for foreign involvement in the International Space Station (ISS) programs, Deputy Assistant Administrator for External Relations, and Associate Administrator for International and Interagency Relations has made a profound impact on NASA's mission. Throughout his 25 years of service, Mr. Condes positively impacted the world by ensuring NASA's valued international partners play a critical role in America's future in space.

In 2015, he was named by NASA's Administrator as the Associate Administrator for International and Interagency Relations. In this role, he was responsible for executive leadership and management directly impacting NASA's interaction with other United States (U.S.) Executive Branch offices and agencies, international relations for each of NASA's Mission Directorates, administration of NASA's Export Control Program, and support of NASA advisory councils and committees. For over a decade, from 2004 to 2015, Mr. Condes provided strategic direction, policy coordination, and management oversight for NASA international and interagency relations, partnerships, and activities, as well as managing all international relations for NASA's four mission directorates, administration of export control and international technology transfer programs, and support of NASA advisory councils and committees as the Deputy Assistant Administrator for External Relations.

In 1999, when serving as Director for Earth Science in the Office of External Relations, he led the Division to establish 290 cooperative agreements with more than 60 nations in support of the NASA Earth Science Enterprise's mission. His activities supported the initial engagements for NASA with nontraditional partners worldwide in Earth Science-related cooperation. Further, in 1994, Mr. Condes became the Manager of International Agreements, focusing primarily on the development of appropriate legal instruments to facilitate Russian involvement in the ISS and Shuttle-Mir programs. During this period, Mr. Condes was one of the lead negotiators and a principal author of NASA's agreements with Russia, Japan, Canada, and the European Space Agency for their respective participation in the ISS program. In 1993, during the U.S. Space Station program redesign, he acted as one of NASA's primary liaisons with the U.S. Department of State and the White House Office of Science and Technology Policy and directly supported NASA's activities related to the initial involvement of the government of the Russian Federation in the ISS program.

Mr. Condes earned a bachelor's degree in government and politics from George Mason University and a master's degree in science, technology, and public policy from the George Washington University Elliott School of International Affairs. He became a member of Senior Executive Service in 1999 and has received numerous awards, including the Presidential Rank of Meritorious Executive, the NASA Exceptional Achievement Medal, the NASA Exceptional Service Medal, and the NASA Outstanding Leadership Medal. Mr. Condes's dedication, commitment, and profound contributions in support of NASA's mission merit him the Distinguished Service Medal.



Distinguished Service Medal

Dr. Brian R. Dennis

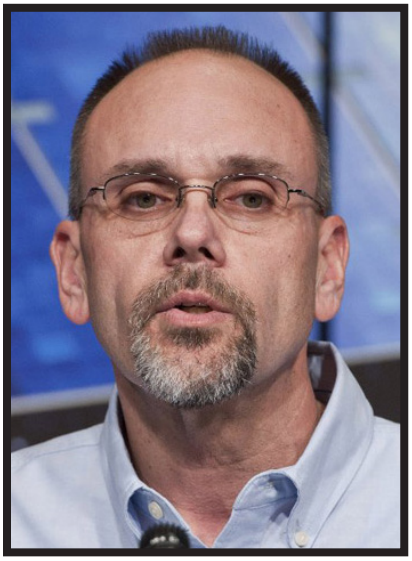
For outstanding service to NASA and the worldwide solar physics community for 50 years as scientist, mission developer, mentor, and proponent of open data and analysis tools.

Dr. Brian Dennis exemplifies the rare combination of individual achievement, service, leadership, and vision for which the Distinguished Service Medal was created. Making a profound scientific and programmatic impact on high-energy solar physics within NASA and around the globe, Dr. Dennis has participated in every NASA high-energy solar physics orbital mission from Orbiting Solar Observatory 8 (launched in 1975) through the spectacularly successful Ramaty High Energy Solar Spectroscopic Imager (RHESSI) mission, for which he served as Mission Scientist and Lead Goddard Space Flight Center (GSFC) Co-Investigator (1997-2018).

As Principal Investigator of the Hard X-ray Burst Spectrometer on the Solar Maximum mission, Dr. Dennis set the pattern for the hands-on, collaborative leadership style that has characterized all his endeavors. His science leadership was demonstrated by his invited single-author review on solar X-ray bursts for the special 100th volume of the international journal, Solar Physics. His dedication to service was displayed by his successful effort to make the entire mission database of over 12,000 solar flare observations available to the public, a pioneering example of what is now a cornerstone of NASA scientific policy.

Dr. Dennis employed all his scientific expertise, imagination, perseverance, and diplomatic skills on the nearly 30-year road to RHESSI, a crowning achievement with indelible impact on NASA science. He describes the twists, turns, disappointments, and eventual triumph of his efforts, and those of colleagues he fully credits and extols, in his career memoir published in Solar Physics in 2018. He led the team that developed the state-of-the-art tungsten grid collimators that were central to RHESSI's imaging capabilities. RHESSI defined an era spanning nearly 2 decades of high-energy solar physics, achieving the first hard X-ray imaging spectroscopy of the Sun, the first imaging above 100,000 electron volts, the first imaging of solar gamma rays, and the first high-resolution spectroscopy of gamma ray lines. Dr. Dennis is author and co-author of significant papers in each of these areas among his nearly 200 peer-reviewed publications. Continuing his commitment to open data and community access, he helped guide the development of user-friendly software and fostered NASA-led community workshops enabling others to learn to use these novel data, thereby increasing the scientific return of the mission.

Enhancing NASA science through his career-long cross-disciplinary engagement with X-ray astrophysics at GSFC and elsewhere, Dr. Dennis promoted solar flare observations by guest investigators on NASA's Compton Gamma Ray Observatory and Fermi Gamma-ray Space Telescope. He has also collaborated with astrophysicists on the development of techniques for ultra-high angular resolution observations of cosmic X-ray sources. He has mentored scores of graduate students, postdoctoral fellows, and early-career scientists from the U.S. and around the world, many of whom have become scientific leaders, NASA principal investigators, and international NASA partners. Dr. Dennis is abundantly deserving of the extraordinary honor represented by the Distinguished Service Medal for his distinguished service to NASA and contributions to the Nation's scientific stature through his groundbreaking research, mission leadership, and personal commitment to building the next generation of leaders.



Distinguished Service Medal

Bryan A. Fafaul

For exceptional service throughout more than three decades leading projects and programs at NASA.

Mr. Bryan Fafaul, Joint Polar Satellite System (JPSS) project manager, has shown outstanding dedication during more than 35 years of service at Goddard Space Flight Center (GSFC). He has worked on some of NASA's most ambitious missions, including the Wide-field Infrared Explorer (WIRE), the Hubble Space Telescope (HST), Glory, and JPSS. He developed a stellar reputation as the person to turn to when a mission needs a steady hand at the helm. Mr. Fafaul is known to be a project manager who can be trusted with technically-challenging missions; he has the skills and knowledge to develop an effective team and pull it all together. Reflective of his adaptability as a leader, when Mr. Fafaul became JPSS project manager in 2011, he took over during a transition period of work previously managed by the National Oceanic and Atmospheric Administration (NOAA), NASA, and the U.S. Air Force, and in 2017, he effectively led the team to a successful launch of the JPSS-1 polar-orbiting, non-geosynchronous environmental satellite.

A prime example of Mr. Fafaul's leadership skills and seasoned space flight development expertise was his navigation through a late-breaking quality issue of an outsourced capacitor. In February 2017, just months before JPSS-1 was due to be shipped to the launch site, GSFC personnel identified high-risk associated with capacitor types used by the hundreds throughout the JPSS-1 spacecraft and instruments. Significant schedule impact seemed a forgone conclusion, but Mr. Fafaul orchestrated a successful multipronged solution with minimal impact to the launch readiness date.

As the instrument systems manager on three HST servicing missions, Mr. Fafaul demonstrated his ability to balance the science and technical needs of the astrophysics community, the HST program commitments, and requirements of the NASA Astronaut Corps to enable the success of the servicing missions. Also as project manager on the WIRE mission, Mr. Fafaul worked tirelessly to have WIRE reach orbit, and though it suffered a failure shortly after launch, the lessons learned helped future missions that used cryo-based systems succeed.

Mr. Fafaul's previous work on the Suomi National Polar-orbiting Partnership (NPP) allowed him to develop the groundwork to organize an architecture and spacecraft design that began with the launch of JPSS-1/NOAA-20 in 2017 and will serve JPSS into the 2030s. He turned NPP into a technical baseline for JPSS-1, and with JPSS-1's success, he established every aspect of the mission—including its schedule, budget, technical baseline, and contracts—that will enable the series to continue with JPSS-2 in 2022, JPSS-3 in 2025, and JPSS-4 in 2028. Mr. Fafaul's sound decisions gave NOAA, the organization that funds over 42 percent of the Center's budget, the confidence to continue the JPSS relationship for polar weather observations with GSFC.

Mr. Fafaul excels at working with people across different backgrounds, finding balance and opportunities for consensus when synchronizing differing cultures and processes of separate agencies. Talented at responding to rapidly changing project demands and facilitating effective communication and agreement, his efforts have proved integral to developing and maintaining NASA's excellent relationship and building confidence with NOAA. For exceptional contributions over his extensive career, Mr. Fafaul is very deserving of the Distinguished Service Medal.

Distinguished Service Medal

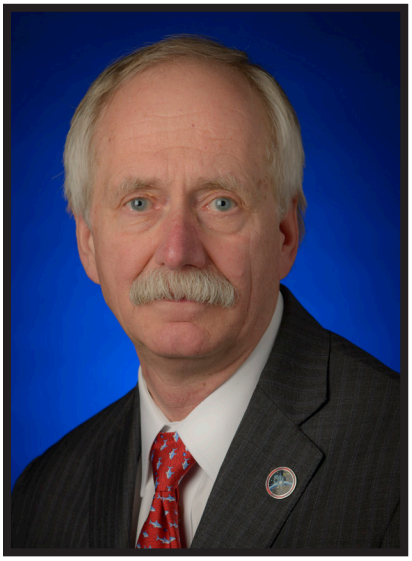
James R. Frees

For outstanding leadership, service, and commitment to excellence in representing the Agency as a NASA attorney.

Mr. James Frees' service as a key legal advisor for NASA and Center programs and processes, providing input and support in complex situations, resulted in innovations, novel ways of accomplishing desired outcomes, improved processes and relationships, and avoidance of waste of the Agency's resources. Mr. Frees demonstrated exceptional effectiveness in analyzing and devising solutions to particularly complex and challenging problems. He served as lead attorney for the Space Launch System (SLS) Program where he resolved issues raised in SLS meetings and provided program-level guidance on procurement law, ethics, and various other legal issues. He directly supported the Procurement branch responsible for the liquid engines powering the SLS Core Stage and Exploration Upper Stage, as well as the Spacecraft/Payload Integration and Evolution office, by providing legal review and guidance on numerous procurement actions that were needed to keep the program moving forward.

As lead attorney for Michoud Assembly Facility (MAF), Mr. Frees reviewed numerous Space Act and interagency agreements and modifications involving various Federal and industry tenants at the Facility. He provided preliminary reviews and drafting assistance before agreements were formally routed for concurrence, often resulting in quicker and smoother processing. He approached this work with a problem-solving focus, so that when issues arose during negotiations with prospective partners, he was able to find mutually-satisfactory resolutions to advance the process. Mr. Frees worked with MAF personnel to draft and obtain expedited clearance from Headquarters on an enhanced use lease with a potential new manufacturing tenant at MAF and he also supported the Department of Justice in all phases of the discovery process in the Big Easy Studios case in the Court of Federal Claims, including electronic and hardcopy collection of documents, development of NASA responses to interrogatories, and preparation of Agency witnesses for depositions.

Mr. Frees played a vital role in the development and approval of the Commercial Space Launch Act agreement with Blue Origin for long-term use of Test Stand 4670 at Marshall Space Flight Center (MSFC), including substantial participation in the drafting and revision process, obtaining clearance from NASA Headquarters to execute the agreement, and coordination of time-sensitive precursor activities under a Space Act agreement. Mr. Frees also provided guidance to the Center Operations and Procurement offices on development of an interagency agreement with Tennessee Valley Authority, which will be MSFC's first use of a utility energy services contract, and when executed, will enable MSFC to take advantage of third-party financing to implement energy-saving facilities projects without upfront funding. Mr. Frees negotiated the terms and conditions, and worked with the NASA Office of the General Counsel to clarify the Agency's statutory authority to legally utilize a utility energy services contract.



Distinguished Service Medal

William Gerstenmaier

For distinguished service as one of the most critical and influential leaders of human space flight leaving a legacy in American history and a role model for generations to come.

Mr. William Gerstenmaier is honored today for his distinguished service to NASA which spans 4 decades of notable leadership with profound impact on human space flight endeavors. He is widely regarded as the key architect in developing and implementing the Agency's long-term vision and strategy to expand human presence into the solar system, including eventually to the surface of Mars.

Mr. Gerstenmaier began his career with NASA in 1977 as a Research Test Engineer at Lewis Research Center, where he was involved with wind tunnel tests that were used to develop the calibration curves for air data probes used during atmospheric reentry of the Space Shuttle. Beginning in 1988, Gerstenmaier headed the Orbital Maneuvering Vehicle (OMV) Operations Office, Systems Division at the Johnson Space Center, leading all aspects of OMV operations at Johnson, including development of a ground control center and training facility for OMV, operations support to vehicle development, and personnel and procedures development to support OMV operations. He later headed the Space Shuttle/Space Station Freedom Assembly Operations Office, Operations Division. He was responsible for resolving technical assembly issues and developing assembly strategies. Mr. Gerstenmaier also served as Shuttle-Mir Program operations manager. In this role, he was the primary interface to the Russian Space Agency for operational issues, negotiating all protocols used in support of operations during the Shuttle-Mir missions.

In 1998, Mr. Gerstenmaier was named manager of the Space Shuttle Program Integration, becoming responsible for the overall management, integration, and operations of the Space Shuttle Program. This included development and operations of all shuttle elements, including the orbiter, external tank, solid rocket boosters, and main engines, as well as the facilities required to support ground processing and flight operations. In December 2000, Mr. Gerstenmaier was named deputy manager of the ISS Program, and 2 years later became manager. He was responsible for the day-to-day management, development, integration, and operation of the ISS, including the design, manufacturing, testing, and delivery of complex space flight hardware and software, and for its integration with the elements from international partners on a fully functional and operating space station.

Named associate administrator for the Space Operations Directorate in 2005, Mr. Gerstenmaier directed the safe completion of the last 21 Space Shuttle missions to complete assembly of the ISS and repair the Hubble Space Telescope. During this time, he provided programmatic direction for the integration and operation of the ISS, space communications, and space launch vehicles. In 2011, development of future Exploration Systems were added to his portfolio, and the Directorate was renamed the Human Exploration and Operations Mission Directorate (HEOMD) in August 2011. He served as Associate Administrator for HEOMD until the summer of 2019, providing strategic direction for all aspects of NASA's human exploration of space and cross-agency space support functions of space communications and space launch vehicles. For his technical contributions and leadership in national and international human space flight programs, Mr. Gerstenmaier was elected into the 2018 class of the National Academy of Engineering.

Distinguished Service Medal

Dr. Jeffrey A. Hinkley

For extraordinary lifetime contributions toward the advancement of material technologies and test methods benefitting the United States interests.

Dr. Jeffrey Hinkley has been the driving force behind multiple technologies and measurement techniques that continue to resonate within the Government and industry communities throughout his career. Some of the most significant have been his contributions to elastomeric materials research, development, and testing.

In 2008, the national community was focused on producing novel technologies for advanced aircraft. An elastomeric material critical to the function of the technology was one of the primary risks that had always resulted in mechanical failure in previous efforts. The proposed flight profiles would require that the elastomer work at temperatures much lower than the standard atmosphere low temperature of -65 °F that is often specified in aircraft applications. Standard American Society for Testing and Materials (ASTM) characterization techniques used by both Government and industry had failed to predict elastomeric material failures at -65 °F and protocols to test them at extremely low temperatures simply did not exist due to complications in gripping samples under these conditions. Dr. Hinkley devised a test protocol based on ASTM standards that could be conducted at the lab scale, greatly increasing research throughput and decreasing sample size requirements. The test focused on fatigue properties rather than more traditional elongation metrics. Using this new test protocol, Dr. Hinkley predicted a material failure due to a strain-induced crystallization mechanism that the other industry standard test methods did not predict. However, while the industry team chose not to use the new method, the full-scale test fixture failed exactly as Dr. Hinkley had predicted, resulting in Government and industry adopting the new test protocol as a standard for this class of novel advanced aircraft technologies.

As Dr. Hinkley's test protocol were adopted, it became apparent that there were not any elastomeric materials available that would mechanically survive the challenging flight conditions, which did not even include other requirements such resistance to aircraft fluids. Dr. Hinkley was tasked to research if polymer physics would even support an elastomeric material that could maintain required properties from the extremely broad temperatures required. While this topic had been researched substantially in cryogenic seals literature, the only options that remained flexible (not elastomeric) were cellulose and leather. Dr. Hinkley expanded on this research and proposed using a highly non-polar oligomer as a soft segment in traditional polar polyurethane configuration. This would result in highly separate crystalline and amorphous domains since the hard and soft segments would be chemically incompatible. If a material like this could be made, it would theoretically lead to broad temperature performance. Dr. Hinkley produced the first of this class of polymers within the national community, leading to a broad series of research programs within U.S. Government and industry that are now taking place.

Dr. Hinkley is recognized as a world-class subject matter expert on polymer material design and test technologies. He has been a part of 60 NASA publications, participated in securing 2 patents, and served as the lead author on 27 publications. His groundbreaking contributions have forever changed the national approach to advanced aerospace materials and test standards, and his service merits recognition by NASA's Distinguished Service Medal.

Distinguished Service Medal

Dr. Michael G. Houts

For distinguished leadership in the development of space nuclear power and propulsion capabilities for enhanced national security and robust human space exploration.

Throughout his nearly 2 decades with NASA, Dr. Michael Houts has been a national leader in the development of nuclear power and propulsion systems to enable the next steps in human exploration. As NASA's leading expert on nuclear technologies, Dr. Houts works with scientists, engineers, and technologists at multiple NASA Centers, other government agencies, academia, and industry for the sustained development of nuclear space capabilities. Following a distinguished career at the Los Alamos National Laboratory, he joined the Marshall Space Flight Center (MSFC) Nuclear Systems Office to develop space nuclear power and propulsion projects. In 2012, he was appointed to lead the Nuclear Cryogenic Propulsion System (NCPS) project under the NASA Advanced Exploration Systems (AES) program, where he established a multifaceted approach to develop nuclear propulsion systems. The NCPS project encompassed fuel element fabrication at MSFC and Oak Ridge National Laboratory; Highly Enriched Uranium reactor design work at the Glenn Research Center, Idaho National Laboratory, and Center for Space Nuclear Research; engine test strategies with the Nevada National Nuclear Security Site; and preliminary cost analysis by NASA and industry partners to provide Agency leaders with viable cost estimates for program planning.

In 2015, the NCPS project transitioned from Advanced Exploration Systems to the Space Technology Mission Directorate Nuclear Thermal Propulsion (NTP) Project, and Dr. Houts was elevated to the position of Principal Investigator. In this continuing role, he has led the Agency's move from Highly Enriched Uranium to safer Low Enriched Uranium fuels for NTP engines, which requires less stringent security procedures and significantly reduces the cost and complexity of NTP engine development, ground test, and launch. This approach, endorsed by an independent assessment panel, has been embraced by the Directorate and is now the baseline for future nuclear engine development. Dr. Houts established trusted working relationships with leading industry partners, such as Dynetics, to evaluate material enhancements for Low Enriched Uranium reactors, and BWX Technologies, for commercial development of reactor and fuel element designs. The relationships formed with industry partners have resulted in a strong industry-NASA cooperation and a sustained budget for the rapid development of NTP engines.

Dr. Houts has served as a valued high-level liaison between NASA and the Department of Energy and the Department of Defense, maximizing the synergy between government agencies in the development of these technologies. He also supports the Department of Defense Strategic Capabilities Office and Defense Advanced Research Projects Agency on multiple nuclear programs. He has worked with the Science and Technology Policy Institute on a streamlined launch approval process for space fission systems, he was re-appointed to a 4-year term on the Executive Committee for the American Nuclear Society Aerospace Nuclear Science and Technology Division, and he serves as co-lead for the NASA Nuclear Power and Propulsion Systems capability leadership team. As the author of numerous technical papers and presentations, Dr. Houts has firmly established his credentials as a leader in the development of space nuclear technologies. Based on his unparalleled contributions to this critical national capability, Dr. Michael Houts is a deserving recipient of NASA's Distinguished Service Medal.

Distinguished Service Medal

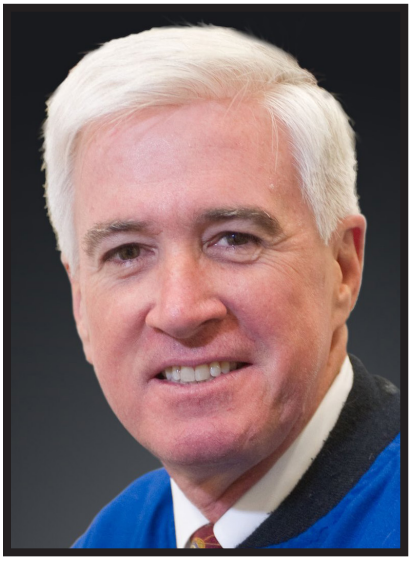
Dr. David G. Johnson

For distinguished service to the Nation in Earth Observation Technology and Human Space Flight safety.

Throughout Dr. David Johnson's 20-year NASA career, he made distinguished contributions to space-based Earth observation technologies for weather and climate, as well as to assure the safety of human space flight. Dr. Johnson began working on advanced sensors to open new windows into Earth's infrared emission spectrum to provide additional insight into the Earth's climate system. He led the development of 2 unique Instrument Incubator Program projects, FIRST and INFLAME, that demonstrated key technologies for future satellite and airborne instruments to observe the climate system. The results from these projects verified the technology and science requirements for space-based sensors to measure climate change. As the Instrument Scientist for the Climate Absolute Radiance and Refractivity Observatory, Dr. Johnson built on earlier successes to develop a calibration demonstration system to validate the ability of an orbiting infrared spectrometer to measure Earth's infrared spectrum to an accuracy of 0.03 kelvin, the established requirement for accurate detection of climate change.

For over a decade, NASA has looked to Dr. Johnson to provide technical expertise and leadership to ensure the quality of the Cross-track Infrared Sounder (CrIS) that will fly on 5 current and future Joint Polar Satellite System (JPSS) satellites. Respected by the NASA project team, the National Oceanic and Atmosphere Administration stakeholders, the instrument contractor, and end users, his outstanding technical leadership brought stability to a team in flux from programmatic change. On the Suomi National Polar-orbiting Operational Environmental Satellite System Preparatory Project, Dr. Johnson's analysis accurately showed that a pre-launch optical defect in CrIS would not significantly affect data quality, which saved cost and schedule resources, and the resulting capabilities enabled the creation of new data products. For the JPSS-2 CrIS instrument currently in test, his analysis showed that hardware changes had consequences leading to unacceptable data quality, which was successfully mitigated through additional work by the vendor.

Following the Space Shuttle Columbia disaster in 2003, the Columbia Accident Investigation Board called for NASA to develop a comprehensive capability to inspect and repair tile and reinforced carbon composite (RCC) sections of the shuttle wing in orbit. In response, NASA developed the Extra Vehicular Activity Infrared (EVA-IR) camera for determining the extent of suspected subsurface RCC damage. Dr. Johnson played a principal role in the development of the EVA-IR camera, leading the specification of the 275 requirements and trade studies, which resulted in the selection of a commercial infrared camera to be modified and used as the EVA-IR camera. He led thermal design modifications and the evaluation of the ground-based testing. Playing a key role in ensuring safety of the shuttle fleet, the EVA-IR camera subsequently flew on Space Transportation System STS missions, and it is also used aboard the ISS. For his role in developing the EVA-IR camera, Dr. Johnson was awarded a Silver Snoopy in 2010. For the past 20 years, he has provided distinguished service to the Agency and the Nation in the development of highly-accurate sensors for measuring climate change, for improving weather forecasts, and for ensuring astronaut safety. Today, we are honored to present the Distinguished Service Medal to Dr. David Johnson for his service to NASA.



Distinguished Service Medal

Dr. Smith L. Johnston

For exceptional contributions to the practice of space medicine and the accomplishment of NASA's human space flight mission.

Dr. Smith Johnston has been at the center of every critical NASA human space flight goal in the last 25 years. He is a pioneer in the practice of space medicine, and over his career, he has transformed the practice of medical care for both active and former NASA astronauts, guided the development and evolution of NASA health standards that shaped the selection of new astronauts, and ensured appropriate management of health risks in space flight. Dr. Johnston joined NASA in 1994, serving as a physician at Johnson Space Center's Flight Medicine Clinic and as an operational flight surgeon for 12 Space Shuttle missions and multiple ISS increments.

A critical issue during the Space Shuttle era was sleep shifting, or tailoring circadian rhythm, for astronauts to manage the rigors of space missions, as well as for personnel traveling around the world in support of NASA's missions. Collaborating with the research community and experts in the field, he successfully led the effort to improve sleep shifting. Dr. Johnston concentrated his initial efforts on the shuttle crews launching to the ISS. Demonstrating to decision-makers in flight operations the best way to view the overall mission with respect to sleep shifts, his efforts led to changes in the entry profile for some missions to maximize crew health and performance. Subsequently, he started working with other flight surgeons supporting the ISS and assisting them in the development of sleep shift schedules for on-orbit crews during dockings or extravehicular activities. These sleep shift schedules became a standard part of flight readiness reviews. Dr. Johnston expanded his activities to personnel rotating shifts at the Mission Control Center, and those traveling to distant locations like Russia and Japan. As a result of his efforts, priority was placed on affording shuttle and ISS crews and personnel supporting operations the best sleep shifts for their respective missions.

Dr. Johnston served as the lead flight surgeon for the last Columbia mission and he was instrumental in both supporting the families of the deceased crew and helping NASA return to flight. Growing from this experience, Dr. Johnston became the Agency's expert on palliative and end-of-life care. He has been one of the strongest advocates for care for former crew members and remains dedicated to ensuring that NASA understands and addresses the long-term human health impacts of space flight. Over the past decade, Dr. Johnston pioneered advances in fatigue management that significantly improved crew health and performance in space and on the ground. His work resulted in the development and deployment of smart lighting on the ISS and at the Mission Control Center to support circadian health, improve sleep, and enhance performance.

Dr. Johnston's work to review and refine NASA medical policies and health standards ensured incorporation of the latest advances in terrestrial medicine into astronaut selection standards, reducing risk to mission success. In addition, he was a key member on the Aerospace Medicine Board and a participant through the most recent astronaut selection cycle. For Dr. Johnston's indelible contributions to NASA, extensive work in space medicine, impact on astronaut selection, and continued efforts to safeguard the health and wellness of Agency personnel, he is a meritorious recipient of the Distinguished Service Medal.

Distinguished Service Medal

Mark A. Kirasich

For distinguished service to the Orion Program ensuring the program's readiness as NASA prepares for deep space exploration.

As Deputy Associate Administrator for Advanced Exploration Systems within the Human Exploration and Operations Mission Directorate at NASA Headquarters in Washington, D.C., Mr. Mark Kirasich's responsibilities are vast: lead the development and operations of a sustainable lunar architecture that encompasses an orbiting gateway, including landing and surface systems, and advance exploration capabilities in preparation for missions to Mars. In his previous role as Orion Program Manager, he expertly led a national and international team to prepare the U.S. for the successful 2020 return to launch from American soil as well as the continuing mission to return to deep space exploration. In the role of Orion Program Manager, he led 4,000 people at 10 NASA installations, oversaw an annual budget of $1.35 billion dollars, and worked collaboratively with industry leaders like Lockheed Martin, multiple NASA Centers, and training, operations, engineering, and development facilities.

Throughout his extensive 36-year career with NASA, Mr. Kirasich's high-impact achievements have significantly benefitted the Agency's mission. His leadership has been key to identifying the future of innovative space flight vehicles and the transition of the Orion Program to support the lunar Gateway exploration strategy. Mr. Kirasich began his NASA career in 1983 at Johnson Space Center in Houston as a member of the Space Shuttle flight operations team, quickly advancing to lead Space Shuttle payload officer in the Mission Control Center. In 1996, he was selected as a flight director in charge of planning and executing NASA human space flight missions, also serving as lead flight director for multiple Space Shuttle missions and ISS expeditions.

Mr. Kirasich's work with the Orion capsule began in 2006 as Deputy Orion Program Manager. He oversaw the development of the capsule that will take U.S. astronauts into deep space locations. Through his exceptional talent as an engineer, manager, and leader, Mr. Kirasich successfully guided the Orion Program, circumventing cancellation in 2010. From its first successful flight tests, including Exploration Flight Test 1 in 2014 where Orion was launched beyond the radiation belt reaching an altitude of 3,600 miles, to today, Mr. Kirasich ensures the Orion Program is affordable and flexible, as it now operates at 60% of the previous annual budget. He has met all milestones, including manufacturing and test campaigns, in preparation for Exploration Mission and Ascent Abort-2, positioning America closer to putting humans, including the first woman, on the Moon in 2024. In this new era, NASA is shifting its vision and mission back to the Moon, a Gateway station around the moon, and ultimately, to Mars while commercial crew capsules from SpaceX and the Boeing Corporation were selected to prepare to launch Americans into lower Earth orbit for work on the ISS. Mr. Kirasich oversaw the development of the capsule that will take our astronauts into these deep space locations. The contract for the Artemis missions to the Moon ensures Orion production for the next decade and NASA has ordered an additional 3 Orion capsules for use on Artemis missions in fiscal year 2022.

Mr. Kirasich's career accomplishments during his distinguished service to NASA are abundant and significant. His leadership and contributions to U.S. space exploration have advanced our collective understanding as humans and our capabilities as a Nation. For these reasons and more, Mr. Kirasich deserves the high recognition of the Distinguished Service Medal.

Distinguished Service Medal

Dr. John C. Lin

For exceptional and sustained career achievements in Flow Control research and its application to aerospace systems.

Dr. John Lin's 40 years of research in flow control technology embodies NASA's mission to discover, explore, develop, and enable. An asset to NASA and an internationally recognized authority in flow-control technology, his research has had an extraordinary impact on the advancement of the U.S. commercial and defense industries. His significant contributions cover the entire spectrum of technology development, from fundamental research and development to important applications on aircraft and marine vessels.

Currently, he is the lead investigator developing and testing the high-lift version of the Common Research Model (CRM-HL), an open geometry used to test innovative active flow control (AFC) technology for transport aircraft. He invented a new actuation concept and his breakthrough research is shattering the old paradigm of flap deflection limits for high-lift technologies. Previously, he was the NASA lead working with Boeing and academia to implement AFC technology onto the vertical tail of a transport aircraft using sweeping jet actuators and increasing side force by 20% during subscale and full-scale tests, as demonstrated on the Boeing 757 ecoDemonstrator. This advancement could allow designers to scale down the vertical tail and reduce fuel usage by roughly 15,500 gallons per airplane annually.

Dr. Lin also developed the micro vortex generator (MVG) technology for aerodynamic and hydrodynamic applications. Using MVGs, he helped Gulfstream achieve a 4% increase in maximum cruise speed on the G5 and expand its flight envelope, operating range, and controllability, resulting in 50 national and world records as well as the Collier Trophy. Introduced to the marketplace in a timely manner, Gulfstream sales soared to $2.4 billion in the first year of G5's introduction. MVGs were also used on the Piper Malibu Meridian aircraft to reduce its stall speed by 5 knots, allowing the plane to pass the FAA safety certification landing requirements, and enabling the company to achieve over $100 million in sales that first year.

While working with Newport News Shipbuilding to extend MVGs to hydrodynamic and hydroacoustic applications, the director of development wrote, "Dr. Lin provided valuable assistance to Northrop Grumman and the Navy through his support of the Advanced SEAL Delivery System. This system is a Special Forces submersible vehicle that was experiencing fluctuating hydrodynamic loads, severely degrading the vehicle's fatigue life. Dr. Lin's expertise led to an affordable, low-impact design modification that exceeded the Navy's expectations for unsteady load reduction. His willingness to provide hands-on assistance, operate effectively within a multi-organizational team, and brilliant technical performance under tough testing conditions is truly a testament to NASA's Flow Physics and Control Branch as a National asset."

Over the course of his career, Dr. Lin has received over 70 professional honors and awards, including Best Paper Award from AIAA Applied Aerodynamics Technical Committee, the NASA Exceptional Engineering Achievement Medal, Peninsula Engineer of the year, AIAA Region I Engineer of the Year Award, NASA Engineering and Safety Center Engineering Excellence Award, and the AIAA Sustained Services Award. His work with NASA's Environmentally Responsible Aviation project also contributed to the team earning the Aviation Week Laureate Award for Technology and the ARMD Associate Administrator Award on Technology and Innovation.

Distinguished Service Medal

Daniel D. Mazanek

For distinguished service as a visionary leader, originating and advancing NASA's human exploration architectures in dedication to the expansion of human presence in space.

For 25 years, Mr. Daniel Mazanek has been a key visionary originating the conceptualization, advancement, and improvement of exploration architectures. In his first 5 years, he influenced ISS redesign efforts, altering ISS contingency planning shortly after launch of its initial modules. He was integral to the Revolutionary Aerospace Systems Concepts project, managing comet/asteroid protection and modular architecture studies, where his analysis served as the framework for congressional studies and he received a patent for his modular, self-sufficient spacecraft concept storing chemical and electric propellant in a single unit.

By analyzing operational human-rated systems while visioning future human exploration elements, Mr. Mazanek became widely recognized as a preeminent thought-leader driving human mission architecture improvements. His participation in several NASA Space Architect studies led to his recommendations being incorporated into the FY04 NASA budget amendment and used to craft the Vision for Space Exploration. He led an Agency-wide Broad Lunar Trade Study and served on the Expert Assessment Panel for the Exploration Systems Architecture Study (ESAS). Mr. Mazanek then supported the Lunar Lander Preparatory Study (LLPS), where his approach to lunar architecting resulted in the innovative Descent Assisted Split Habitat (DASH) lunar lander concept.

This early-career leadership of successive, agency-level architecture studies foreshadowed the manner in which Mr. Mazanek's influence would shape NASA's exploration strategy. Continuing his service on the agency-wide Lunar Architecture Team, developing a reference lunar outpost design and leading cross-agency analysis integration. Mr. Mazanek was instrumental in identifying the cross-program integration issues impacting lunar architecture viability, earning the trust of NASA senior leadership management by presenting performance deficits/benefits with utmost candor, yet void of bias. Driven by Mr. Mazanek's expertise, leadership, and perseverance, the Constellation Program continually sought Langley's support of strategic analysis and surface architecture integration. Merging his human spaceflight mission design expertise with his passion and knowledge of asteroids, Mr. Mazanek then led the Human Architecture Team (HAT), championing synergies between asteroid retrieval and human missions to near-Earth asteroids. He led the NASA asteroid-retrieval Design Reference Mission assessment, briefing senior NASA officials, the NASA Advisory Council, and Congressional stakeholders, asserting that an alternative mission concept would increase value while lowering risk and broadening stakeholder support. His ardent advocacy led to a consensus expansion of the mission's threshold objectives. Building an Agency-wide team, Mr. Mazanek implemented an efficient, risk-informed design strategy for the Asteroid Retrieval Mission. These achievements reflect a career of leadership, innovative engineering acumen, and advocacy for successful human spaceflight, with Mr. Mazanek's passion directly influencing Agency long-term strategic plans.

Since 2018, Mr. Mazanek has supported development and acquisition efforts for the Human Lander System (HLS), leading efforts for the Ascent Element and systems engineering teams. This included leading the HLS Alternative Architecture Study, providing an assessment of alternative HLS architecture concepts, both NASA internal and external, to achieve human landing on the Moon in 2024. Most recently, his expertise was sought through Mr. Mazanek's appointments to the Commercial Lunar Payload Services (CLPS) and HLS Appendix H Source Evaluation Boards, high priority acquisitions critical to the Agency's Artemis plans. He exemplifies the best of NASA and is a true steward of the responsibility this Agency entrusts upon its leaders. Throughout his career, Mr. Mazanek has been a role model, continually challenging "good enough" and offering innovative alternatives, not driven by bias, that increase the impact of the mission, both for NASA and the nation. Dr. Daniel Mazanek is, therefore, fully deserving of NASA's Distinguished Service Medal.

Distinguished Service Medal

Dr. Ronald C. Merrell

For distinguished service, extraordinary contributions, and outstanding leadership to NASA's mission and the Nation's space program.

Dr. Ronald Merrell's exceptional service through distinguished leadership – serving as chair for NASA's Aerospace Medicine and Occupational Health Advisory Committee for 10 years, as an advisor on telemedicine, and on the ISS Advisory Committee since its inception – has made a profound impact on NASA's mission. Dr. Merrell's dedication, commitment, and profound contributions in support of NASA's mission merit him the Distinguished Service Medal.

An Emeritus Professor of Surgery at Virginia Commonwealth University (VCU), Dr. Merrell has held numerous roles in healthcare throughout his career, including Stuart McGuire Professor and Chairman of VCU's Department of Surgery from 1999 to 2003. Dr. Merrell was also the Clinical Director of VCU Health Systems Telemedicine program, and leader of the Medical Informatics and Technology Applications Consortium. He previously was the Lampman Professor and Chairman of the Department of Surgery at Yale University School of Medicine.

Dr. Merrell obtained bachelor of science and doctor of medicine degrees at the University of Alabama, his home state. After a brief tour of duty in the Army, he joined the faculty at Stanford University, where he established a laboratory to address transplantation of Islets of Langerhans, chaired the Curriculum Committee, and won the Kaiser Foundation Award for excellence in teaching.

Dr. Merrell has had a longstanding relationship with NASA as an advisor in aerospace medicine and researcher in telemedicine. His innovative work in telemedicine includes early use of Internet medicine, sensor applications, transmission solutions, and program design. Further, his efforts in international telemedicine have led to significant programs in 10 countries and extensive work in remote and hostile environments, including Mount Everest, the Amazon, and Africa.

Distinguished Service Medal

George Morrow

For distinguished service, extraordinary contributions, and outstanding leadership to NASA's mission and the Nation's space program.

Mr. George Morrow's exceptional 37-year career in the space industry provided distinguished leadership for NASA in various significant management roles, as the Deputy Director of Goddard Space Flight Center (GSFC) and Acting Center Director at GSFC until his retirement.

He began his career at GSFC in 1983 in the Space Power Applications Branch as the lead spacecraft battery systems engineer. He led the design, fabrication, and test efforts for flight battery systems for all GSFC projects including the Earth Radiation Budget Satellite, Landsat, the Cosmic Background Explorer, the Gamma Ray Observatory, the Upper Atmosphere Research Satellite, and the Hubble Space Telescope. From there, he went on to a variety of leadership roles, including Deputy Project Manager of the Hubble Space Telescope Flight Systems and Servicing Project and Project Manager for the Earth Observing System Aqua Project and the $900 million Observatory, including direct management of eight complex science instruments—two of which were contributions from Japan and Brazil.

In September 2007, he accepted the position of Director of Flight Projects where he made profound impact on NASA's mission, where he oversaw more than 40 Space and Earth Science missions during his tenure as Director and Deputy Director of that unit. He was responsible for day-to-day mission management in formulation, implementation, or operation at GSFC, as well as management of the Earth Science Technology Office and the Advanced Concepts and Technology Office. His leadership infused mission success into managing space flight projects that was evident in eight successful launches, including: Tracking and Data Relay Satellite (TDRS)-K, TDRS-L, Mars Atmosphere and Volatile EvolutioN Mission, Global Precipitation Measurement, Interface Region Imaging Spectrograph, Total Solar Irradiance Calibration Transfer Experiment, Landsat Data Continuity Mission, Lunar Atmosphere and Dust Environment Explorer, and National Polar-orbiting Operational Environmental Satellite System Preparatory Project. He improved business practices, sponsored knowledge-sharing activities, refined coalitions with the Executive Office, NASA, other Federal agencies, and inspired team commitment to deliver technical, cost, and schedule excellence for GSFC space flight missions. When the Ice, Cloud, and land Elevation Satellite (ICESat)-2 mission was threatened, Mr. Morrow gained cooperation from the Engineering Directorate and built consensus to complete a dual-directorate reorganization necessary to transfer in-house instrument management responsibility. Establishing the new Instrument Projects Division provided the necessary structure to manage GSFC's in-house instrument for ICESat-2.

Mr. Morrow received a Bachelor of Science degree in Chemical Engineering from the University of Virginia and a Master of Engineering Administration degree from George Washington University. He also received numerous awards, including: the Presidential Rank Award (Meritorious) in 2007 and 2014, the Goddard Robert C. Baumann Award for Mission Success in 2015, the NASA Outstanding Leadership Medal in 2006, and the Exceptional Service Medal in 1994, as well as numerous NASA and Goddard Group Achievement and Special Act awards. Mr. Morrow's dedication, commitment, and profound contributions in support of NASA's mission merit him the Distinguished Service Medal.

Distinguished Service Medal

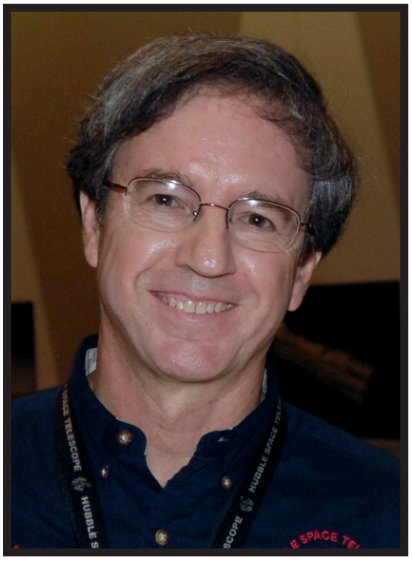
Dr. Michael J. Mumma

For exceptional integration of observations, laboratory data, and modeling yielding pioneering insights into the origin and the evolution of our solar system.

Dr. Michael Mumma has made numerous enduring contributions to planetary science, particularly in the areas of astrobiology, cometary sciences, planetary atmospheres, planetary instrumentation, and molecular spectroscopy. During his more than 40 years at NASA, he studied comets and planetary bodies using ground-based observatories, space-based observatories, and airborne observatories such as the Kuiper Airborne Observatory.

Dr. Mumma founded the Goddard Center for Astrobiology, a worldwide renowned Center of excellence. He pioneered the first detection of water in comets, and later extended the methodology to detect 10 additional gaseous species in more than 60 comets to date. His observations form the basis of an emerging taxonomy of comets based on volatile composition. The central question being addressed by the Goddard Center for Astrobiology corresponds with NASA's fundamental goals: Why is Earth wet and alive? In particular: Did delivery of exogenous organics and water enable the emergence and evolution of life? In another breakthrough discovery of astrobiological importance, Dr. Mumma's team at Goddard was the first to report methane plumes on Mars, which is a biomarker on Earth, and they also suggested that pores in the soil might open only during certain seasons.

Dr. Mumma is considered an expert reference in planetary sciences and in astrobiology across the world, as demonstrated by his outstanding publication record and number of citations (13,000; h-index: 61). He is an elected Fellow of the American Physical Society, and in 1999, the International Astronomical Union named asteroid 8340 "Michael J. Mumma" for his foundational work in the spectroscopy of comets and his work on comets as x-ray objects that helped to provide a new probe for the solar wind. The endowed namesake, "Michael J. Mumma Prize" is awarded to an outstanding rising senior for excellence in physics or astronomy at Franklin & Marshall College. Dr. Mumma also has adjunct professorships at Pennsylvania State University, University of Toledo, and University of Maryland. His unique integration of observations, laboratory data, and modeling has yielded pioneering insights into the origin and the evolution of our solar system. Key to his success has been his enormous enthusiasm, his inexhaustible tenacity for research, his very broad knowledge in many fields, and his creative and innovative approach to analyzing planetary atmospheres. Dr. Mumma's continual flow of new ideas, his breadth of knowledge, and his big-picture understanding of astrobiology have inspired generations of young scientists over the past 4 decades. For his enduring contributions to NASA, advancing scientific research and knowledge of the origin of life in our solar system, Dr. Mumma is rightfully recognized with the prestigious Distinguished Service Medal.



Distinguished Service Medal

Dr. Malcolm Niedner, Jr.

For outstanding dedication to ensuring the scientific excellence and success of NASA's premiere flagship astrophysics missions and exemplifying the best of NASA.

Dr. Malcolm "Mal" Niedner, Jr. retired from NASA Goddard Space Flight Center (GSFC) in February 2020 after a long and distinguished career as a world-class technical leader and Project Scientist on 2 of NASA's major astrophysics flagship missions, the Hubble Space Telescope (HST) and the James Webb Space Telescope (JWST). Dr. Niedner's long and exciting career at NASA's GSFC began in the summer of 1974 when he was a graduate researcher working with Jack Brandt on the comet-solar-wind interaction using wide-field imagery. This eventually fed into to his PhD thesis research, after which he became a NASA civil servant employee in 1980. He became well known for his main research into the interaction of bright comets with solar wind plasma and interplanetary magnetic fields.

Dr. Niedner was heavily involved in planning and executing the first-ever spacecraft mission to a comet in 1985, the International Sun-Earth Explorer 3. Dr. Niedner joined the HST team in 1993 as the Deputy Senior Project Scientist and worked on all 5 servicing missions, literally getting down into the nuts and bolts of the repairs of science instruments such as Space Telescope Imagine Spectrograph. He advocated for astronauts to use a fastener capture plate on the Aft-Shroud Cooling System, which was critical to the success of the mission. In addition to his technical work, he also participated in HST communications and outreach, including the review of media releases and press stories, and he acted as science editor for numerous editions of the annual "HST Science Year in Review."

Bringing experiences and lessons learned from the HST, Dr. Niedner joined JWST 9 years ago as the Deputy Senior Project Scientist-Technical. During his tenure on JWST, he provided leadership for every technical aspect that affects science performance. He led the Science Requirements Advisory Board that analyzed the science implications of engineering performance metrics, particularly if there were threats against the ultimate scientific performance. Additional highlights from this role include modeling space-charging of science instrument optical surfaces for various space plasma environments, working on mathematical optimization techniques for thermal model correlations, analyzing stray light sensitivity to contamination deposition levels on various JWST surfaces, and coordinating an effort to understand the science performance implications of wavefront error instability. In addition to Dr. Niedner's technical contributions, he is an esteemed colleague appreciated for his wit and affable nature.

Dr. Niedner has the gift to understand complicated technical challenges, as well as the ability to communicate the challenges and solutions across diverse teams and technical expertise areas, which has proven invaluable throughout his career. He has a way of pulling together even the most disparate teams, leading diverse perspectives to build consensus around innovative solutions. Whether working on comets, HST, JWST, or the myriad of other projects he has influenced over his career, Dr. Niedner has exemplified the NASA spirit of curiosity, teamwork, and innovation. For all of his unique contributions to ensure the scientific excellence and success of NASA's premiere flagship astrophysics missions, Dr. Niedner is extremely deserving of the NASA Distinguished Service Medal.

Distinguished Service Medal

Dr. Claire L. Parkinson

For outstanding research on global sea ice cover and climate change, and for extraordinary leadership as Project Scientist of the Aqua Earth-observing satellite mission.

Goddard Space Flight Center (GSFC) climatologist, Dr. Claire Parkinson, is a sea ice satellite pioneer, Aqua Project Scientist, and extraordinary NASA Senior Scientist with a rich legacy of technical accomplishments and leadership. Dr. Parkinson joined GSFC in 1978, after being drawn to polar research due to the Antarctic Treaty's peaceful international policy regarding the icy continent. Dr. Parkinson's accomplishments in climate science and as Project Scientist for the Aqua satellite are singular, exceptional, and have earned her the rare distinction of election to both the National Academy of Engineering and National Academy of Sciences.

In the 1980s, when satellite data were relatively new, Dr. Parkinson and her colleagues pioneered the use of remote sensing to measure ice on the oceans, overcoming difficulties with early satellite data and producing the first satellite-based Arctic sea ice atlas. As satellite data improved, she led an effort that quantified the decreases in Arctic sea ice and helped awaken the world to the climate changes happening in the Arctic. She continually updates the satellite record for both polar regions, re-calculating the sea ice trends and developing new methods for analyzing them. Thanks to her more than 100 journal articles (26 of which she sole-authored), scientists now recognize polar sea ice as a key piece in the climate puzzle. Dr. Parkinson has quantified decreases in Arctic sea ice, as well as a puzzling increase in Antarctic sea ice followed by a dramatic decline after 2014. She authored a 2019 article on the 40-year Antarctic sea ice record, which was picked up by 160 news outlets. Dr. Parkinson's techniques for examining sea ice from satellites set a gold standard, and her many published results have elevated environmental awareness globally.

Starting in 1993, Dr. Parkinson oversaw every facet of developing a $952 million spacecraft with 6 advanced Earth-observing sensors collecting data on every facet of the Earth system: atmosphere, oceans, land, ice, and biosphere. Since its launch in 2002, Dr. Parkinson has been the interface between the larger scientific community and NASA, excelling at working with scientists, engineers, resource analysts, and mission operations, devoting extraordinary hours and judiciously balancing science needs and constraints. Dr. Parkinson has served as Project Scientist for extended period of 26 years because she feels deeply about the value of the mission. Hundreds of thousands of users download Aqua data, over 20,000 peer-reviewed publications have incorporated Aqua data, and Aqua affects every American's life through the use of its data in daily weather forecasts and monitoring of forest fires, crop yields, drought, air quality, sea ice, and volcanic ash. During hundreds of public outreach talks, she energetically explains climate nuances to the public, students, and even skeptics.

Dr. Parkinson researched and sole-authored a 2010 book on climate change, promoting civil dialog and raising concerns about risks of geoengineering. Before *Hidden Figures*, Dr. Parkinson initiated and led the development of a book on Women of Goddard: Careers in Science, Technology, Engineering, and Mathematics. She has sole-authored books on satellite observations and the history of science and contributed to writing and editing 10 other books. Dr. Parkinson is an Earth-centered scientist exemplifying the very best of NASA, fully deserving of the NASA Distinguished Service Medal.

Distinguished Service Medal

Dana D. Purifoy

For 40 years of distinguished service and significant contributions to the advancement of aerospace technology, science, human exploration of space, and flight.

Mr. Dana Purifoy has provided dedicated service to the United States during a 40-year career with NASA and the United States Air Force (USAF). His culminating achievement was outstanding leadership as Director for Flight Operations at the Armstrong Flight Research Center (AFRC) where he was responsible for the Center's fleet of 22 highly modified manned and unmanned aircraft. In this role, he judiciously balanced resources that enabled and supported highly effective science, astronomy, and aeronautical flight research missions worldwide, as well as the flight and ground crews that fly and maintain them. In an era of reductions of resources, he was able to maintain flight operations that provided invaluable data to the research community.

During his career he has led diverse technical teams in a broad portfolio of complex, high-risk flight research and flight operations with proven results for Aeronautics, Human Space Exploration, Science, Space Technology Missions, and National Defense. He created an environment that fostered creative thinking and inspired a new generation of diverse leaders. As a member and chair of the Inter-Center Aircraft Operations Panel, he actively sought to improve NASA flight operations. While serving as Director for Flight Operations at AFRC, for 2 years Mr. Purifoy also assumed the role of acting Director for Safety and Mission Assurance responsible for flight and range safety, aviation, and institutional safety.

Beginning his NASA career as a USAF research test pilot in 1994, he flew many significant research projects during 11 years with NASA, and his participation on the F/A-18 Active Aeroelastic Wing and the X-56 high-altitude, long endurance modular unmanned aerial vehicle laid the foundation for the resurgence of lightweight, flexible aircraft structures. As a leader of project teams, he also flew the NB-52 mothership during launches of the X-38 prototype crew return vehicle and the X-43 hypersonic scramjet vehicles, providing the groundwork for future commercial cargo missions to the ISS and future hypersonic flight research for the benefit of the USAF and the United States Navy. Experiments on the F/A-18 Systems Research Aircraft advanced technologies such as electro-mechanical and electro-hydraulic actuators that are now in standard usage. His work on projects like the X-36 tailless fighter agility project was foundational for current Urban Air Mobility efforts. Mr. Purifoy led the completion of the hazardous Convair 990 space shuttle tire tests without incident and provided substantial savings and increased safety for the Space Shuttle program.

Prior to becoming a test pilot, Mr. Purifoy flew F-111 and F-16 aircraft in Great Britain and Germany. He served as a project pilot in the joint NASA/USAF X-29 Forward Swept Wing research program and he also served as project pilot and joint test force director with the Advanced Fighter Technology Integration/F-16 program, both located at Dryden Flight Research Center at AFRC. Prior to those assignments, he served as chief of the Systems Evaluation Branch at the USAF Test Pilot School at Edwards Air Force Base, and he concurrently educated students on T-38, F-16, and A-37 aircraft. His last USAF assignment was test flying U-2 aircraft. For his service to NASA and the nation, and his aerospace contributions, Mr. Purifoy is deserving of the Distinguished Service Medal.

Distinguished Service Medal

Dr. Millard F. Reschke

For outstanding contributions as NASA's Chief Neuroscientist leading innovative international flight research experiments to prepare us for future space exploration.

Dr. Millard Reschke is the chief neuroscientist for NASA with a distinguished career over 45 years ranging from Apollo to Artemis. He has displayed remarkable vision as a principal investigator (PI) responsible for leading innovative flight research experiments that have made a profound impact on furthering state-of-the art technologies in the field of space neuroscience and preparing the Agency for new exploration missions. In addition to leading several complex international shuttle experiments, Dr. Reschke provided the scientific leadership for intramural neuroscientists by addressing risks associated with longer space missions. As a PI on the first Space Shuttle Spacelab mission, Dr. Reschke's 'Hoffmann's Reflex' results during brief linear accelerations provided key insight into neurophysiologic changes occurring early in space flight and on return to Earth. He is internationally-renowned for his theory of Otolith Tilt-Translation Reinterpretation that had a profound importance in shaping research hypotheses for several decades.

He served as PI and lead neuroscientist for Shuttle-Mir and NASA-Mir projects. As PI on the Microgravity Vestibular Investigations, he recruited an international team of experts for a comprehensive assessment of vestibular function during a complex rotating chair experiment. This experiment had tremendous impact by integrating research analyses across multiple laboratories and advancing state-of-the-art video-oculography that is now the industry standard. As PI and lead neuroscience scientist for NASA's Extended Duration Orbiter Medical Project, Dr. Reschke organized and mentored several other scientists in Johnson Space Center's Neuroscience Laboratory to ensure an integrated approach and refocus on functional aspects of sensorimotor alterations.

Many individuals in intramural leadership and extramural academic roles began their careers under his guidance, thereby reflecting the impact of his mentorship. Following many years of developing a collaboration with Russian colleagues, Dr. Reschke's vision for collaboration paved the way for the current Recovery of Functional Sensorimotor Performance following Long Duration Space Flight field test, which has resulted in one of the most successful joint scientific collaborations with the Russians to date. His insight in recognizing that this collaboration was essential to gaining early field access that was critical for understanding deconditioned crew capabilities immediately after landing. This collaboration was one of the cornerstone projects in the initial multilateral 1-year mission study that has led to his role as PI for follow-up field tests.

Both the spaceflight research and operations community have recognized Dr. Reschke for his distinguished scientific leadership. He has over 300 peer-reviewed publications and he is one of the most cited researchers in his field. He has broadly disseminated his field test findings as deconditioned crew debriefs within the NASA operational community due to the high impact it has on vehicle and design reference missions. The response of the medical and recovery operations personnel to these debriefs, especially with planned water landings, have heightened the urgency to address integrated crew egress risks. For his extraordinary efforts over his extensive career with NASA, Dr. Reschke is deserving of the Distinguished Service Medal award.

Distinguished Service Medal

Penny E. Roberts

For significant contributions to NASA and Human Space Flight Programs through visionary and effective leadership of multiple Space Shuttle and ISS Projects.

During a NASA career spanning more than 30 years, Ms. Penny Roberts has made a profound impact on human space flight across the Space Shuttle and ISS programs. Ms. Roberts has been the chief architect and proponent of some of the most impactful systems used on the Space Shuttle and ISS systems. Early in her career, she led the first flight tests of the Global Positioning System (GPS) on the Space Shuttle. This inexpensive, yet highly effective, experiment flew on 4 Space Shuttle missions supporting payloads. Ms. Roberts was the chief architect and project manager for the ISS GPS Subsystem, leveraging technical expertise from JSC, JPL, Stanford University, and Draper Laboratory to mitigate risks associated with attitude determination, state vector, timing, and relative GPS. She also advocated and obtained approval for the GPS Attitude and Navigation Experiment that flew in the Orbiter payload bay.

Ms. Roberts has represented NASA at numerous technical forums, including serving as session chair for Institute of Navigation and Institute of Electrical and Electronics Engineers conferences, as well as co-authoring and presenting technical papers. She served on the editorial advisory board for GPS World magazine where she wrote annual articles about the vision for GPS in the coming year. As a result of her expertise and team building skills, Ms. Roberts led an Agency-wide team to develop a plan for the development of a NASA standard GPS receiver.

Working on the ISS Program, Ms. Roberts formulated and led projects that have revolutionized the communications and data architecture on the ISS. The most significant of these efforts was her leadership of the Obsolescence Driven Avionics Redesign project. Ms. Roberts led the Boeing and NASA ground and flight teams to devise and execute a multi-project effort that added a second string of Ku-band hardware, eliminated the bottlenecks, established 10-fold increase in payload data handling, and increased data rates. These upgrades transformed ISS operations by adding 2 more space-to-ground audio channels, allowing dedicated payload communications with the astronauts and enabling contingency and Ethernet-based commanding. She formed a partnership with the NASA Space Network team to perform upgrades parallel to the ISS, providing significant communication coverage improvements.

Ms. Roberts also led the formulation and approval of the Common Communications for Visiting Vehicles project and achieved successful operation with both the Cygnus and Dragon vehicles. Ms. Roberts also championed efforts to define an affordable approach to expanding external Wi-Fi coverage, and she developed and implemented streamlined certification approaches for items such as the ISS color printer and the disposable external wireless camera. She was instrumental in formulating and advocating for an approach to use of Space Shuttle flight crew equipment on the ISS. Her leadership continues in efforts build a multi-Center partnership to operationally utilize optical communications on the ISS. Her ability to perceive and comprehend needs, form partnerships, and lead teams to formulate affordable and effective solutions have resulted in significant enhancements to both the Space Shuttle and ISS. The ISS capabilities have enabled science and operations that would not have been possible without her contributions. For these reasons, Ms. Roberts is deserving of the NASA Distinguished Service Medal.

Distinguished Service Medal

Robert H. Rutherford

For distinguished leadership, innovation, and partnerships to ensure successful transportation services for mission-critical Agency Programs.

Throughout Mr. Robert Rutherford's distinguished 28-year career, he has demonstrated a commitment to leadership, innovation, and partnerships that have contributed to the success of many of the Agency's major programs. He has maintained the planning and execution of transportation for critical hardware valued at well over $1 billion in support of projects and programs such as the Space Shuttle Program Office, the ISS, and the Space Launch System (SLS). Most recently, he supported the innovative handling and transportation operations for multiple SLS oversized components, including the SLS Engine Section, Liquid Oxygen Structural Test Article (STA), the Liquid Hydrogen STA, the Pathfinder Vehicle, and the Core Stage Flight Article.

Mr. Rutherford was instrumental in leading multiagency teams comprised of employees from Marshall Space Flight Center, Michoud Assembly Facility, Stennis Space Center, Kennedy Space Center, and Boeing in support of SLS marine operations, ground operations, lifting, and integration. Additionally, Mr. Rutherford led efforts to convey and document lessons learned after each operation to identify opportunities to improve the next operations. For each of the SLS hardware components, he led the Transportation Readiness Review and faced unique challenges from hurricane threats to high wind limitations, as well as an expedited Program schedule. He assures that operational risks are investigated and mitigated, which include all barge operations. He continually seeks innovative opportunities and partnerships that span the Federal government missions to conserve money and improve efficiency. He maximized the use of existing support equipment, such as Holland Dollies, and he introduced new processes, including a one-tug approach for the Liquid Oxygen Tank STA transportation that resulted in a 50 percent reduction in tugs required to navigate inland waterways, while assuring safety and visibility were not impacted. He led the redesign for the NASA barge, Pegasus, as well as a 50-foot extension necessary to accommodate the oversized hardware, and he developed operational alternatives when anomalies were identified, such as the design and fabrication of the engine section trailer.

Throughout his career, Mr. Rutherford oversaw the operations of various modes of transportation including NASA-owned barges, the NASA Guppy, U.S. Air Force cargo aircraft, rail, and over-the-road commercial and government vehicles. Acknowledged across the Agency at all levels, his inclusive leadership style has made a profound impact. His impeccable knowledge of transportation processes is valued across various disciplines, including Engineering Test, Engineering Ground Support Equipment Design, Safety and Mission Assurance, Resource Management, Procurement, and numerous program offices. Mr. Rutherford has been a significant force in leading and executing transportation initiatives and operations through developing partnerships across the Federal government, and his distinguished service reflects great credit upon himself, MSFC, the Agency, and the Nation.

Distinguished Service Medal

Kirk A. Shireman

For distinguished service to ISS Program, successfully guiding the program into its 20th year and transitioning to commercial participation.

As former ISS Program Manager, Mr. Kirk Shireman expertly led a national and international team to operate and utilize the ISS to conduct groundbreaking research to improve life on Earth, expanded our understanding of how humans can live and thrive in space, and defined the capabilities of deep space exploration. His leadership was key to identifying innovative space flight architectures and requirements that will further the Agency's exploration potential and leverage NASA's existing and planned human space flight capabilities. Mr. Shireman's work with the ISS Program began in 2006 as Deputy ISS Program Manager, overseeing the Program's design and assembly, as well as the addition of the final pressured module in 2011. Exhibiting exceptional talent as an engineer, manager, and leader, Mr. Shireman successfully guided the ISS Program shift from assembly to utilization, and finally his increased focus on integration and execution of ISS payloads. Today, the ISS is fully operational and serves as the platform for testing spacecraft systems and equipment required for missions to the Moon and Mars.

Prior to being named ISS Program Manager in 2015, Mr. Shireman served for 2 years as Deputy Director of Johnson Space Center, supporting the initiative of advancing human space flight by being lean, agile, responsive, and adaptive to change. His unique skill set and ability to lead effectively across organizations was a crucial component to the ISS Program's success. Strategically coordinating international flight crews, multiple launch vehicles, globally-distributed facilities, communications networks, and the international scientific research community, this collaboration is key to sustaining the ISS and ensuring crew safety. Under this new era of space exploration, Mr. Shireman supported NASA and its international partners in exploring beyond low Earth orbit (LEO). Mr. Shireman handled ISS budget reductions and implemented contract strategies that reduced the cost of maintaining and operating the ISS, enabling increased utilization. He led the transition to commercial and private participation with the ISS, which is the future of America's LEO missions. Defining NASA's long-term LEO needs, he led the vision planning for LEO economic development of ISS commercial activities, creation of a pricing model for purchase of ISS services, establishment of commercial destination for future LEO platforms, and expanded opportunities on ISS to manufacture, market, and promote commercial products.

Mr. Kirk Shireman fundamentally changed the way NASA operates when he oversaw the development of new liability and insurance risk posture where NASA provides services for private astronaut missions through reimbursable Space Act Agreements, allowing NASA to operate in a manner more consistent with commercial companies. Through his innovative achievements in this area, he reduced launch vehicle price through competition and limited government cost risks through firm fixed price controls. Mr. Shireman's work to modify program contracts and budgets to integrate new research, engineering, mission, and integration service providers prepared the Program to support LEO commercialization and exploration. Throughout his extensive 35-year career with NASA, Mr. Shireman's high-impact achievements have significantly benefitted the NASA mission and he is deserving of the Distinguished Service Medal.

Distinguished Service Medal

Joel R. Sitz

For an exceptional career with significant contributions to the advancement of aerospace technology, science, human exploration of space, and program management for NASA.

Mr. Joel Sitz has served in roles of increased scope and impact for over 38 years with NASA and industry, culminating as the Director of Program and Projects at NASA's Armstrong Flight Research Center (AFRC) at Edwards Air Force Base in California. In this position, he was responsible for the advocacy, formulation, and implementation of Center flight projects. He led diverse project teams in a broad portfolio of complex, high risk flight research programs for Aeronautics, Human Space Exploration, Science, and Space Technology missions. Mr. Sitz is a visionary and trusted leader with talent for inspiring creative thinking and implementing change. He actively mentored a new generation of diverse leaders and continuously offered innovative means to improve NASA program and project management. His legacy is that he provided the framework and capabilities for AFRC to retain prominence as a premier NASA Center for flight research.

Prior to his assignment as Director for Programs, Mr. Sitz directed the Exploration Systems Mission Directorate, responsible for all Center space exploration activities and projects. Prior to that role, he excelled as the project manager for the flight tests of the X-43A experimental hypersonic aircraft, accountable for the overall flight research element of the Hyper-X program. The X-43A became the world's fastest air-breathing aircraft and established long-term capabilities to keep the Center and the Agency recognized as the national leader in hypersonic flight research. Mr. Sitz was also deputy program manager at AFRC for NASA's Aviation Safety Program, and project manager of the F-18 Systems Research Aircraft and the L-1011 Adaptive Performance Optimization projects, where he was responsible for development and flight evaluation of several advanced aircraft sensors and systems, which are currently being implemented in modern aircraft resulting in a reduced carbon footprint. He also made significant contributions in flight test, validation, and research for X-48, Pad Abort-1, Dream Chaser, and the Flight Opportunities program, which encompassed tests that were critical in the return of astronauts to the Moon and onward to Mars.

His considerable participation in experimental aircraft, as characterized by the X-56, X-57, and X-59, have provided the technologies that will maintain national leadership in aerospace. Mr. Sitz played a key role in leading teams to conduct NASA science on every continent and every ocean on Earth. He led the development of the Center's first Unmanned Air Vehicle Systems (UAS) Mission Directorate and he was responsible for a host of projects demonstrating first-time-ever UAS science platform capabilities, mini-UAS technologies, and High Altitude Long Endurance technologies. He initiated joint development partnerships with Department of Defense and Federal Aviation Administration regarding access to the National Air System.

Before joining NASA as an aerospace engineer in 1989, Mr. Sitz was employed by Honeywell Military Avionics Division, where he was responsible for real-time flight control software design, development, and testing for the X-29A forward-swept wing aircraft. Mr. Sitz has exemplified exceptional leadership and technical excellence throughout his career, leading the Center through various successful transitions and reorganizations. For his career of service to NASA and the nation and advancement of aerospace capabilities, Mr. Sitz is deserving of the Distinguished Service Medal.

Distinguished Service Medal

Darrell D. Slone

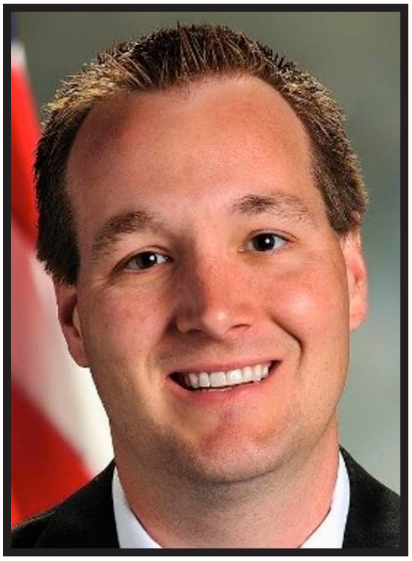
For distinguished and exemplary service as the director of the NASA Counterintelligence and Counterterrorism Program.

Mr. Darrell Slone has distinguished himself and NASA by serving as the Director of NASA's Counterintelligence (CI) and Counterterrorism program since its inception in 2007. Applying extraordinary leadership, skill, and expertise, he implemented a highly-acclaimed program that is now an essential part of the Agency's security posture. Due in large part to Mr. Slone's efforts and astonishing accomplishments, NASA now has a robust CI program protecting NASA from foreign intelligence. In 2019, the program achieved its highest annual investigative output with over 230 investigative actions and disseminated a vast amount of information through briefings, newsletters, and other presentations.

A sampling of some of Mr. Slone's major investigative accomplishments include the detection and arrest of a NASA contractor for selling over $2 billion dollars in trade secret information to China. This investigation (now declassified) was the first NASA case tried under The Economic Espionage Act of 1996. U.S. attorneys credited NASA CI as the key for its success and this case earned the program its first prestigious Director of National Intelligence (DNI) Meritorious Unit Citation. Another GSFC employee, was arrested and convicted for selling NASA technology to China. Authorities credited NASA CI as instrumental in this conviction. Further, an HQ NASA employee, was arrested and convicted for attempting to sell NASA information to Israel. NASA CI provided key investigative support convicting this employee of attempted espionage.

As part of Mr. Slone's CI approach at NASA, he developed and integrated an aggressive cyber security capability leading to the protection of NASA personally identifiable information and proprietary information. A single operation identified the targeting of 2 Centers and confirmed a unique cyber modus operandi of an intelligence adversary. This operation earned NASA CI its second DNI Meritorious Unit Citation. In 2019, NASA CI received a third DNI Meritorious Unit citation and recognition from the Vice President and U.S. Secretary of Defense for identifying another major penetration, which secured NASA CI's position as the leading (Non-Title 50) defensive CI program within the federal government. Mr. Slone's distinguished leadership is a key component to the CI program's success and directly impacts staff performance. Federal Employee Viewpoint Surveys for his program consistently rank Mr. Slone's leadership and personnel job satisfaction in the top 90 percentile. Furthermore, his staff has accumulated over 20 Agency and NASA Headquarters honor awards.

Mr. Slone's leadership in the intelligence community has allowed NASA to establish key liaison officers at the National Cyber Task Force, the National Joint Terrorism Task Force, and the National CI Task Force. Data from these national connections provide critical daily threat insight needed to protect NASA equities. Mr. Slone sets an example for others to follow; twice he served as the NASA executive representative to the federal government giving program, Combined Federal Campaign (CFC), and he continues to support CFC by training executives, attending CFC events and has helped the Capital CFC raise over $150 million. His many years of distinguished service have had an indelible impact on Agency security, its people, and its mission. Mr. Slone is an exceptional leader, CI professional, and mentor who epitomizes the high standards of a distinguished NASA executive.



Distinguished Service Medal

Dan Tenney

For distinguished service, extraordinary contributions, and outstanding leadership to NASA's mission and the Nation's space program.

Mr. Dan Tenney has over 25 years of diverse leadership experience across a variety of areas with proven success in optimizing major, high-risk, and highly visible operations. From November 2017 until his retirement, Mr. Tenney served as the Associate Administrator for Mission Support at NASA, where he was responsible for institutional and business functions with annual budget of over $3 billion, 15,000 employees, and 5,000 facilities. In that role, he integrated major operations across 14 different states and restructured activities to a more interdependent operating model, saving hundreds of millions of dollars for American taxpayers. Prior to that, he served as the Deputy Associate Administrator for Mission Support, where he led a major restructuring initiative that established more efficient operations across NASA. Mr. Tenney also served as the Chief Financial Officer (CFO) at NASA Langley Research Center, where he oversaw planning, budgeting, program analysis, and accounting activities for a national research laboratory.

During the Space Shuttle era, he served as the manager of the Management and Technical Support Office at the NASA Engineering and Safety Center for approximately 5 years, leading diverse Agency operations, directing integrating business activities across 10 NASA Centers, and enabling solutions-driven results for the highest-risk challenges at NASA. In 2003, as the Deputy Director for Full Cost Operations, he led NASA as the first Federal agency to implement Agency-wide full cost operations. Additionally, Mr. Tenney served in several key leadership roles for Langley, including Deputy CFO for Finance, Center Deputy CFO for Systems, and Chief Budget Strategist.

Mr. Tenney earned a bachelor's degree in accounting from Christopher Newport University and a master's degree in business administration from Averett University. He also completed the Senior Executive Fellows Program at Harvard University and, in 2009, successfully completed NASA's Senior Executive Service Candidate Development Program. His accomplishments throughout his NASA career made a substantial impact on operational efficiencies and a profound impact on the Agency's mission. Mr. Tenney's dedication, commitment, and profound contributions to NASA's mission merit the Distinguished Service Medal.

Distinguished Service Medal

Robert A. Tepfer

For distinguished service and widely recognized profound and indelible personal impact on the NASA Procurement and litigation mission and distinguished mentorship.

Mr. Robert (Bob) Tepfer joined NASA in 1997 after an illustrious 22-year career with the United States Air Force that culminated with his selection as the staff judge advocate of a major installation. At NASA, the Johnson Space Center (JSC) chief counsel immediately selected Mr. Tepfer as the attorney to lead the litigation practice group. His expertise and strategic thinking were essential in defending numerous complex cases before the Government Accountability Office, Armed Services Board of Contract Appeals, and the U.S. Court of Federal Claims, saving NASA millions of dollars and preserving Agency assets and personnel.

Mr. Tepfer defended NASA in a profit dispute case of a major government contractor, resolving the dispute and preventing a costly precedent from being established for all subsequent profit associated with this work, saving NASA millions of dollars over the life of the contract. Mr. Tepfer's numerous significant accomplishments in procurement and litigation include his representation in a fraud case where Mr. Tepfer's sound judgment and legal competence recovered in excess of $900,000 for NASA. Mr. Tepfer's winning attitude has been instrumental in supervising, leading, and litigating Merit Systems Protection Board cases, as well as supporting Equal Employment Opportunity cases. Additionally, Mr. Tepfer's expert handling of the claims and litigation that ensued in the aftermath of the Columbia accident was valuable to the Agency and the U.S. Government. In that case, Mr. Tepfer led an interdisciplinary trial team defending a $79 million claim by Spacehab Inc. before the Armed Services Board of Contract Appeals. Mr. Tepfer's brilliant strategic thinking and negotiation acumen ultimately led to a withdrawal of the case with no assigned damages. Mr. Tepfer was also designated as a Special Assistant U.S. Attorney to work on a parallel tort case filed in Federal District Court, and his skillful performance prompted the plaintiff to withdraw that case as well.

In 2008, Mr. Tepfer became JSC Associate Chief Counsel for Procurement. With integrity and care, Mr. Tepfer mentored and advised on procurement strategy, the development of solicitations, and the subsequent award of all major contracts worth tens of billions of dollars. Leveraging past performance and strategic thinking, Mr. Tepfer recently implemented a streamlined procurement process with advancements that reduced the number of protests filed, improved competition on JSC contracts, and created unquantifiable efficiencies. Mr. Tepfer also led efforts to close out Space Shuttle contracts, mitigated Agency liability under a major aerospace contractor's employee pension system, and enabled timely acquisition of equipment destroyed by Hurricane Harvey. Mr. Tepfer's impressive accomplishments will have lasting impacts within NASA helping to propel the Agency towards mission success and benefitting the Nation's interests. For these reasons and more, Mr. Tepfer is deserving of the Distinguished Service Medal.

Distinguished Service Medal

Dr. Sheila A. Thibeault

For sustained distinguished service in developing space technologies for NASA missions and establishing the Langley Colloquium Series.

Dr. Sheila Thibeault's distinguished research has focused on developing space technologies for NASA missions, from Apollo to Gateway. For Apollo, she determined the visual acuity and vernier acuity in viewing scaled objects on television, which was required for the astronauts to dock safely during Lunar Orbit Rendezvous. During the 50th Anniversary of Apollo, she was featured by the news media for her role. She worked on the international Barium Ion Cloud Experiment that released barium within Earth's magnetosphere to determine the shape and orientation of the magnetic field line and the strength and direction of the electric field in the proximity of the release. She derived the triangulation error analysis equations required for selecting the observation stations and triangulation procedure, formulating the launch criteria, and establishing the data reduction procedures.

Dr. Thibeault founded and served as the first chairman of the Langley Research Center (LaRC) Colloquium Series in 1971, and as this program focused on cognitive science now approaches its 50th Anniversary, she is the chairman once again. Since 1981, she has worked on space environmental effects and radiation shielding. She formulated a self-healing atomic oxygen (AO) resistant polymer and demonstrated its effective performance in space. In 1992, she pioneered the use of boron-containing materials for neutron radiation shielding, and subsequently, she innovated the use of metal oxides for AO resistant materials and the use of polymer binders to consolidate Lunar and Martian regolith simulants for in-space construction. Dr. Thibeault also introduced reconfigurable and wearable radiation shielding to reduce launch mass, and she is now working on these systems for Gateway.

She led a study to evaluate and recommend adhesives for the ISS, providing extensive data on the durability of adhesives exposed to electrons, vacuum, and thermal cycling; this work is published in the ASM International Engineered Materials Handbook Series. By testing a broad range of materials on space missions, she made major achievements in advancing knowledge about the effects of the space environment on materials and understanding of degradation mechanisms to guide the formulation of improved materials.

Dr. Thibeault envisioned using ISS for materials testing in space; she co-proposed the Materials International Space Station Experiment in 1999 (MISSE). With extensive knowledge of environment-materials interactions, she developed accurate experiments for MISSE, she served as LaRC Principal Investigator for numerous missions, and she trained astronauts for extravehicular activities to deploy the first MISSE external payloads on the ISS. As a science adviser to the ISS National Lab, she led efforts to define the requirements for testing materials on the MISSE-Flight Facility. Her MISSE data, published for access by designers in NASA's database for materials properties (MAPTIS), are required for producing longer-lived spacecraft, and were recently used for the James Webb Space Telescope.

She was a 2011 NASA Innovative Advanced Concepts Fellow, she received an ISS Top Discoveries in Microgravity Award, and she earned a NASA Silver Snoopy Award. She has produced over 200 papers, 3 book chapters, 2 ASTM standards, and several patents. Dr. Thibeault's exceptional contributions to space technologies make her eminently deserving of the Distinguished Service Medal.

Distinguished Service Medal

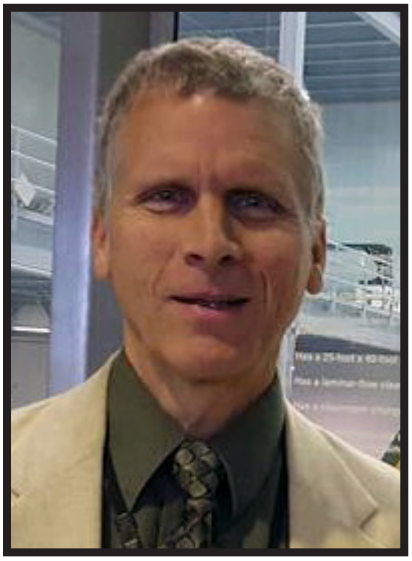
Kenneth O. Todd

For lifelong exceptional vision, technical leadership and dedication, advancing the mission of NASA and the International Space Station Program.

Mr. Kenneth Todd has exhibited exceptional leadership, vision, and resourcefulness during his 30-year career with NASA. He has proven his ability to direct challenging programs at all levels and established a reputation as an effective leader with acute customer focus. His contributions have directly resulted in advancing the interests of the U.S. and nations across the globe in human space flight. Mr. Todd managed the ISS Avionics and Software Office and successfully led the development and implementation for the integrated avionics systems and software products required to deliver a functional ISS vehicle operating in orbit. In addition, he led the Mission Integration and Operations Office, accountable for establishing policies, concepts, processes, templates, plans, and requirements relative to the ISS mission and operations. He was directly responsible for ISS strategic planning, definition of integrated increment and launch package requirements, resource allocations, and off-nominal situation plans.

Mr. Todd has led ISS 24/7 operations for over 7 years at the forefront of the largest peacetime international endeavor in humankind's history with partnerships spanning the globe. In this role, he has led a team of civil servants, contractors, and international partners to plan and conduct on-orbit operations and research, demonstrating superb technical expertise and making a profound impact on NASA's human space flight success. Mr. Todd is held in the highest regard by those who report to him, by his peers, and also by members of the international community. He regularly solicits and considers diverse views when faced with technical and programmatic issues, made more challenging given the international nature of the work. He is effective in working with his international counterparts whose views and problem-solving approaches are often different. As a significant example, in the wake of the Soyuz 56S launch abort anomaly in 2018, Mr. Todd ensured minimal impacts to ongoing ISS real-time operations despite the potential for significant disruptions due to the delay in the two crew members' arrival. He worked with partners across NASA and the Canadian, European, Italian, Japanese, and Russian space agencies to devise a plan that successfully continued ISS operations and utilization at a rate that would also support two significant ISS resupply cargo missions near the end of the year, steering the ISS safely and productively through this dynamic timeframe.

Relationships among the ISS partners are exceptional thanks largely to Mr. Todd's direct efforts. He displays a keen ability to ascertain each partner's priorities and integrate them in a way that the group as a whole achieves its common objectives. His talent for understanding and addressing complex technical issues has been tested at times by a challenging global environment however, Mr. Todd has been able to drive ISS operations to function smoothly in an apolitical fashion. His dedication to excellence has enabled continuous crew occupation of the ISS, continuously working in space to push the frontiers of human knowledge, improve life on Earth through groundbreaking research, and lay the groundwork for human exploration of the solar system. Mr. Todd's efforts have contributed immensely to the many successes experienced by the U.S. and its international partners aboard the ISS, warranting recognition with the prestigious Distinguished Service Medal.



Distinguished Service Medal

David Craig Tupper

For distinguished service to NASA and the Science Mission Directorate through many years of financial leadership that has made an indelible impact on mission success.

Mr. David Craig Tupper has served in various positions within the Science Mission Directorate (SMD) since 1988. For the past 10 years, he has provided distinguished executive leadership as the SMD Resources Management Division (RMD) Director. In this role, he is responsible for the strategic development, advocacy, execution, and evaluation of an annual budget of approximately $7 billion. He provides sought-after advice to his peers in other organizations and senior SMD and NASA managers on budget strategy and leads an organization of 16 staff members. A key factor to Mr. Tupper's long-term success within SMD has been his thorough understanding of robotic mission lifecycle financial performance trends, and his ability to translate that knowledge into valuable assessments and decision support tools.

For decades, during the critical implementation phase of the mission development cycle, he successfully performed assessments to estimate potential costs, overruns, and underruns. Beginning in 2015, he recognized the strategic need to transition this assessment capability to a model-based methodology to ensure the long-term availability of this critical capability. After several years of work, Mr. Tupper developed and implemented a model-based costing tool that is used for financial performance assessment for missions within 24 to 30 months of their launch readiness dates. Recently compared to estimates SMD utilizes from other sources, including independent assessments performed by aerospace industry partners and Jet Propulsion Laboratory, his tool was found to be comparable, and at times better, than these costly, externally-produced assessments. During fiscal year 2018-19, Mr. Tupper's costing tool was used to inform the SMD Associate Administrator (AA) in advance of critical budget decisions on several high-visibility science missions. The most notable use of the tool was in association with Mars 2020. As early as June 2018, Mr. Tupper's new tool began to forecast a highly probable lifecycle cost commitment breach during 2019. Mr. Tupper was the first to notify the SMD AA of a likely breach, which did ultimately occur. The SMD AA, Dr. Zurbuchen, credited Mr. Tupper's model and its precautionary estimates regarding Mars 2020 with enabling positive stakeholder communications and early intervention to avoid a potential launch delay and significant associated costs.

In addition to Mars 2020, Mr. Tupper worked closely with the SMD AA to resolve numerous other recent budget issues including budget phasing for the James Webb Space Telescope. After determining the effectiveness of Mr. Tupper's tool and approach, the Office of the Chief Information Officer adopted SMD's pathfinding technique for use across the Agency.

For the past 32 years, SMD senior leaders have been able to count on Mr. Tupper to flawlessly produce annual budget deliverables and perform analysis to support all program and project milestone reviews and mission selections. Forward-thinking and highly dedicated to the Agency's mission, Mr. Tupper was effective in preparing his staff to serve as the next generation of NASA financial leaders following his retirement. Mr. Tupper is truly deserving of NASA's highest form of recognition for the critical advancements he has made during his distinguished tenure.

Distinguished Service Medal

Dr. Eugene K. Ungar

For extraordinary and sustained contributions and leadership in fluid and thermal analysis for NASA's space flight programs.

Dr. Eugene Ungar is being recognized for his extraordinary, sustained contributions as an Agency expert in fluid and thermal analysis for NASA's space flight programs. Through his work for the Crew and Thermal Systems Division in the Johnson Space Center Engineering Directorate and his service as Deputy Technical Fellow for Life Support and Active Thermal Control Systems (ATCS) for the Agency's Engineering and Safety Center, his efforts have impacted NASA's key missions and space technology, while permanently enriching scientists and engineers through the dissemination of his technical expertise. Dr. Ungar's work is broad and deep in scope, spanning research, development, design, analysis, testing, and flight operations. His activities in these areas required expert knowledge, innovative engineering, and exemplary communication skills in support of various NASA organizations, programs, and partners.

Dr. Ungar has made major contributions toward mission success for the Space Shuttle, ISS, Exploration, and other programs. He diagnosed issues with the secondary wick and manifold design as causes of a heat pipe experiment failure on a Space Shuttle mission and he led a post-flight team that verified the failure causes and developed a design that flew successfully on a subsequent mission. He catalyzed the effort to change the Space Station Freedom ATCS redesign to use flow-through radiators that are now used on the ISS and he participated in the development of options for the redesign, playing an integral role in conceptualizing the cascade ATCS design on today's ISS.

During the Columbia accident investigation, Dr. Ungar identified and confirmed the details and physics of the accident root cause through analysis and testing. In the Space Shuttle's return to flight, he developed successful mitigations with the external tank team for foam loss and ice frost ramps. His analysis also allowed another mission to proceed and return nominally when he was able to show that a decrease in a hydrazine propellant tank was consistent with a nitrogen pressurant leak, and not an actual hydrazine leak. After an ISS ATCS flight control valve failure on ISS, he designed and performed a test that confirmed the heat exchanger had not frozen, enabling the mission to continue without the need for repairs. He also worked with the ATCS team to develop a repressurization scheme for the ammonia external thermal control system that did not run the risk of freezing the interface heat exchangers.

Dr. Ungar led a team to assess and analyze the ascent venting of the James Webb Space Telescope sunshield resulting in improved ground thermal vacuum tests and a better understanding of the design. During his career, he developed a simplified method for predicting maximum pressure to prevent a catastrophic failure for an observatory project, led an Agency-wide independent review team to determine the cause of a heat pipe failure on a satellite, and performed analysis to predict the pressure drop from cut tubes of a spectrometer on the ISS. He has chaired numerous scientific and technical panels and sessions throughout the Agency and he has also produced an abundant amount of technical publications that educate and influence NASA and the industry in his specialized field. The impact and importance of Dr. Ungar's distinguished service and accomplishments have been instrumental, not only to the past, but to the ongoing success of NASA's space flight efforts and beyond.

Distinguished Service Medal

Dr. William R. Van Dalsem

For extensive service and life-long dedication to NASA technical projects across aeronautics and space flight.

Throughout his remarkable career at NASA, Dr. William Van Dalsem addresses technical and management challenges with an innovative, adaptive style that encourages energetic and inclusive teamwork across engineering and science disciplines. With over 40 years of service in the management of world-class researchers and technical oversight of leading-edge activities, he has contributed substantially to high-profile work at the Agency, including the High Performance Computing and Communications (HPCC) Program; Computing, Information, and Communications Technology (CICT) Program; Stratospheric Observatory for Infrared Astronomy (SOFIA) Project; and the Kepler Mission. In his role as Deputy Director of the Ames Aeronautics Directorate, he envisioned an architecture for the integration of Ames Research Center (ARC) ground and flight facilities that enabled the assessment of flight qualities of the supersonic Low-Boom Flight Demonstration X-plane, and led the creation of the Smart Mobility Project. He also spearheaded the reinvigoration of the ARC vertical/short take-off and landing expertise to support the emerging urban air mobility industries.

Continuously encouraging innovation and novel ideas, Dr. Van Dalsem actively engaged the Aeronautics workforce during a period when the Directorate earned the most improved Federal Employee Viewpoint Survey results at ARC. Previously, as Chief of the Intelligent Systems Division, he managed research of innovative technologies for over 100 distinct NASA and external activities. Under his leadership, ARC developed and delivered the first autonomous robot to the ISS and established ARC as a powerhouse for flight software and ground data systems for missions such as SOFIA, Kepler, the Lunar Atmosphere and Dust Environment Explorer, and the Lunar Crater Observation and Sensing Satellite.

During his tenure at the ARC Chief Engineer Office, Dr. Van Dalsem led major reviews for aeronautics and exploration technology projects. He established the ARC Software Engineering Working Group and created the Software Inventory Management System.

Earlier in his career, as Deputy Program Manager for the Agency-level CICT Program, he led the formulation of an annual $200+ million cross-Center effort covering 4 projects across space communications, intelligent systems, high-performance computing and networking, and advanced IT and nanotechnology.

During his time as Chief of the Computational Technology Branch, Dr. Van Dalsem led computational physics support of the Space Shuttle and advanced subsonic research aircraft, and he accelerated the adoption of computational fluid dynamics by the U.S. aerospace industry. In addition, he served as the NASA representative for the Federal High Performance Computing and Communications (HPCC) Program, with an annual NASA budget of $70 million supporting 10 NASA Centers.

Shortly after joining NASA in 1979, Dr. Van Dalsem led the development of revolutionary physics algorithms and computer codes for simulating transonic-separated airfoil flow, an AV-8 Harrier in ground-effect, and Boeing 747SP cavity/telescope interactions that influenced the selection of the current SOFIA configuration.

As evidence of his far-reaching career at NASA, elements of this work were put on display in the National Air & Space Museum's "Beyond the Limits" exhibit. With his ingenuity and career-long dedication to NASA missions, Dr. Van Dalsem truly deserves the Distinguished Service Medal.

Distinguished Service Medal

Robert A. Yaskovic

For exceptional leadership in Exploration Ground Systems program, significantly contributing to the success of the Program, Exploration Systems Development Division, and KSC.

Mr. Robert Yaskovic is an exceptional leader in the Exploration Ground Systems (EGS) Program, whose efforts have significantly contributed to the success of the Program, the Exploration Systems Development Division of the Human Exploration and Operations Mission Directorate, and Kennedy Space Center (KSC). Mr. Yaskovic continuously accepts challenging leadership roles and deserves recognition for stepping up to lead the Program's Command, Control, and Communication (C3) Office at a critical time. Mr. Yaskovic seamlessly took over leadership and continues to attentively manage the work that is the Program's critical path for Artemis I and the Moon to Mars mission. He is collaborative and inclusive in his actions, which defines his leadership style. Mr. Yaskovic brings remarkable insight, stability, and critical thinking to an incredibly dynamic project. His dedication, initiative, and positive attitude drive the success of the C3 Project, which is responsible for providing the hardware and software, network pathways, and voice/video systems for Human Exploration Operations Mission Directorate launch manifest objectives.

Mr. Yaskovic leads the employees and manages the C3 Office in the execution of EGS's critical path encompassing immensely challenging projects in a continuously changing environment, including Spaceport Command and Control System (SCCS) and Ground and Flight Application Software (GFAS). Under his leadership, the SCCS project managed delivery of the critical system software capability to process hazardous operations, SCCS 4.0 software delivery, and the first new processing and launch software to be developed for NASA-led human spaceflight missions launching from KSC since the Space Shuttle Program fleet was retired in 2011. Most recently, the SCCS 5.0 software was released and deployed into the firing rooms and labs, providing the ability to perform command and control for all three stages of the vehicle and the ground operations. Through astute leadership, creativity, innovation, and collaboration, Mr. Yaskovic also led his team to upgrade the hardware in the firing rooms without shutting down remote testing ongoing in the field, saving several months of critical path schedule.

In an environment that is highly dependent on flight program (Orion and Space Launch System) and ground program system development, Mr. Yaskovic has made substantial progress in managing the GFAS team's performance. Mr. Yaskovic ensured his teams were thoroughly informed and well-engaged during the establishment of new approaches and schedule commitments in a consolidated SCCS and GFAS development plan. His optimized approach to workforce management, using a strategic blend of civil service and contractor employees, is expected to increase NASA's probability of success in meeting future project commitments in a more efficient and productive manner. Inherent to this approach is the planned use of high-demand, cross-program software laboratories for GFAS verification and validation activities that are critical to mission success.

Mr. Yaskovic brings true professionalism and expertise to the EGS Program and genuine dedication to delivery of top-quality work. Through his distinguished service, ability, and vision, Mr. Rob Yaskovic continues to significantly and positively influence the progress of the EGS program advancement to support NASA's current and future missions.

Distinguished Public Service Medal Recipients

Distinguished Public Service Medal

Charles L. Boehl

For service as a leader and innovator of imagery systems and impacting the success of NASA space flight programs through imagery preservation for future generations.

As a member of the Information Resources Directorate for over 30 years, Charles Boehl has played a critical role in the success of Johnson Space Center (JSC) and NASA missions through the implementation and management of mission imagery systems. He has managed many complex projects across multiple contracts, most recently the upgrade of the mission system for processing, distributing, and archiving ISS imagery, known as the Video Recording and Playback System (VRPS).

His innovative approach to challenges and commitment to ensuring the highest-quality NASA imagery have fostered far-reaching improvements in the infrastructure for acquiring, transporting, processing, and storing both terrestrial and non-terrestrial imagery. Under his leadership, JSC transitioned from an all-analog to all-digital imagery system, a quantum leap that helped make JSC a center of excellence for multimedia and positioned it to successfully meet the evolving requirements of the ISS, Orion, and Gateway Programs.

In managing the upgrade of the VRPS over a 10-year evolution, Mr. Boehl oversaw a significant increase in total downlink capacity and improved IT security by moving from tape-based to a hybrid cloud solution. Its robust and flexible design ensures it is scalable to accommodate evolving needs including Center broadcasts, the preservation of institutional video, and the growing requirements of commercial flight.

While the VRPS project is his most recent contribution, it is just the one of many significant achievements, including the digital renovation of the Neutral Buoyancy Laboratory imagery system, the design and implementation of a campus internet protocol television system, and the installation of JSC's film archive preservation system that is allowing the recovery and preservation of historic Apollo and Space Shuttle films. His extensive project management experience and advanced technical skills have also ensured the success of countless high-profile events over the years, such as his coordination and oversight of National Geographic's "Live from Space" broadcast. The 2-hour, prime-time broadcast was the most tweeted program in National Geographic Channel history, touching the lives of audiences around the globe and educating the world on the importance of space exploration.

Mr. Boehl is often called on for his technical expertise and creative problem solving. He was recently consulted to help diagnose a focus issue with ISS onboard cameras, and he was integrally involved in the redesign of the cold vault used to store historic mission imagery.

Mr. Boehl has earned the respect of customers and colleagues alike for his thorough understanding of imagery systems and the underlying distribution infrastructure. His quick thinking, creative problem solving, and dedication have helped to ensure the uncompromised excellence and seamless delivery of mission imagery to the programs, Center, Agency, and the public.

Distinguished Public Service Medal

Ronald F. Dantowitz

For outstanding and sustained contributions over three decades to NASA's Human Exploration and Planetary Science Programs.

Over 3 decades, Mr. Ronald Dantowitz has collaborated with NASA on numerous critical, high-visibility programs, providing significant scientific contributions to major Agency initiatives supporting human space flight and planetary science. An aeronautical engineer, educator, and Science, Technology, Engineering, and Math (STEM) enthusiast, Mr. Dantowitz's passion for the Agency mission has led to numerous associations with NASA. As an intern at Ames Research Center from 1985-86, he designed hardware flown on the Space Shuttle's 19th flight. As Director of the Dexter School Clay Center Observatory (2000-16), he taught K-12 science. He was instrumental in fostering research opportunities for high school students and successfully petitioned NASA to allow students to fly in NASA aircraft to help collect hyperspectral measurements on 6 NASA and international spacecraft returning to Earth. The observations revealed important data for accurate modeling of atmospheric reentry physics that could not be obtained with traditional instrumentation methods. Spectral observations of a sample return capsule reentry in 2006 (Stardust) and an ISS cargo vessel breakup in 2008 (ATV-1) advanced our understanding of complex chemical, thermal, structural, and aerodynamic processes that influence spacecraft reentry and accuracy of models used to define hazard areas and public safety.

The NASA Engineering and Safety Center asked his team to perform a visual observation of a launch abort test in 2009, and a Mach 18 infrared observation of the Space Shuttle Endeavour in 2011, which currently represents the highest speed that surface temperature has been obtained on a crewed maneuvering vehicle, contributing to improve characterization of re-entry environments for a damaged thermal protection system. The resulting reduction in uncertainty would have rendered unnecessary the risky spacewalk to repair damage during the first "Return to Flight" Space Shuttle mission following the Columbia loss.

As president of MARS Scientific, a provider of high-resolution telescopic tracking and imaging, he developed technology that has been critical for certification of parachute recovery systems essential for astronaut safety and assured access to and from space. In 2018, Mr. Dantowitz executed an observation of a NASA Orion parachute test when the program realized standard range capabilities were inadequate. Under the direction of NASA's Scientifically Calibrated In-Flight Imagery team, he participated in over 25 NASA commercial partner parachute tests, which identified anomalies and served as the basis for engineering changes to improve parachute reliability. His innovative approaches for rapid data delivery resulted in significant cost savings, and implementation of a real-time video streaming capability met the NASA Administrator's request for more transparency.

Mr. Dantowitz's expertise has provided invaluable data required for safe operation of human-rated spacecraft. Without such data, future spacecraft design would produce heavier, costlier vehicles with reduced operational and science capability. With more than 30 technical publications relating to the NASA mission, his pioneering optical work sets a high standard of excellence. In 2005, he was awarded the Alan Shepard Technology in Education Award for commitment to inspiring students' interest in STEM. For his career contributions, Mr. Dantowitz is deserving of the Distinguished Public Service Medal.

Distinguished Public Service Medal

Dr. George Helou

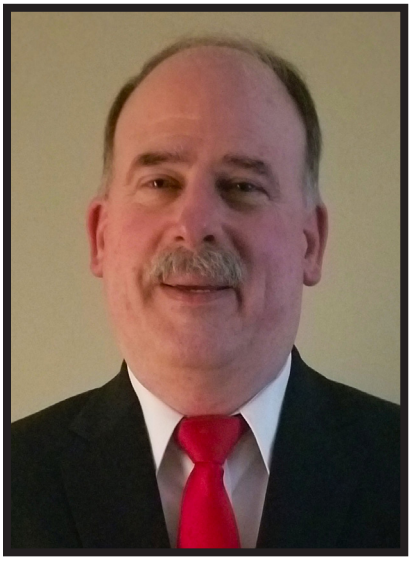
For distinguished public service as Executive Director of the Infrared Processing and Analysis Center, profoundly strengthening NASA's advancement of U.S. interests in astrophysics.

Internationally-renowned astrophysicist, Dr. George Helou, has personally contributed to NASA's advancement of U.S. interests through his distinguished service as Executive Director of the Infrared Processing and Analysis Center (IPAC) at Caltech. As a leading expert in infrared emission from galaxies, based on his many studies with NASA's Spitzer Space Telescope, Dr. Helou is known worldwide for his discovery of the relationship between radio and infrared emission from galaxies, providing an important tool for measuring star formation rates over cosmic time. For over 20 years, Dr. Helou has contributed scientific ability and vision to NASA as Executive Director of IPAC. He has planned, implemented, and directed multiple mission science centers and archives, providing science operations, user support, data services, and scientific vision to maximize discovery with space- and ground-based observatories serving NASA's astrophysics goals. He has fundamentally changed the data environment for astrophysics in the U.S. and the world, helping to usher in what he calls "the golden age of infrared astronomy."

As the architect of Spitzer Science Center (SSC), Dr. Helou discerned how to design science operations, translate scientific questions into observing activities, guide observers in optimal use of the telescope, turn raw instrument data into scientifically-meaningful information, and manage interactions among SSC, Spitzer project management, and researchers worldwide. Dr. Helou supplied the expertise, his own and that of his staff, required for SSC services—instrument support, observation and proposal planning tools and databases, proposal peer review, observation scheduling, data processing and archiving, data-reduction support, and public outreach—all of which contributed profoundly to the success of this great NASA observatory.

Dr. Helou has implemented at IPAC the vision outlined by the U.S. National Research Council in its 2007 report "Portals to the Universe" in various NASA missions as well as joint missions between NASA and the European Space Agency. He maintains the resident scientific knowledge and instrument familiarity required to reduce science-ready pipeline data from raw data. To optimize its long-term usefulness, he has ensured that this expertise is captured in software, reduced data products, and documentation, and he ensures data standardization across instruments, conditions, and science goals. Leveraging diverse expertise at each science center, he has defined the requirements for data integrity, usability, and longevity. Importantly, he provides insight from this process back to instrument designers, making a lasting impact on future astrophysics missions.

For decades, Dr. Helou's extraordinary contributions to astrophysics in general, and NASA astrophysics in particular, have been recognized through invitations to lecture at over 50 international conferences, numerous NASA honor awards, a physics prize from the Kuwait Foundation for the Advancement of Sciences, an honorary doctorate in Humane Letters from the American University in Beirut, and induction into the Lebanese Academy of Sciences, of which he is now president. Through his service to NASA as Executive Director of IPAC, Dr. George Helou profoundly strengthened the ability of NASA to advance U.S. interests in astrophysics, and he is highly deserving of the Distinguished Public Service Medal.



Distinguished Public Service Medal

Larry A. Johnson

For exceptional technical leadership advancing the design and development of the Agency's human space program vehicle communications systems.

Mr. Larry Johnson is acknowledged for his exceptional, extensive, and sustained contributions for more than 4 decades of developing and leading high-consequence vehicle communications systems. As a benchmark for others to follow, Mr. Johnson's broad space communication systems expertise and leadership demonstrate a sustained evolution and extension of impactful improvements to space vehicle upgrades, new design concepts, and various advanced systems. Mr. Johnson led the development and practical use of the Anechoic Chamber for space flight characterization. His significant contributions to design, develop, and test antennas have been foundational to today's Antenna Test Facility, used to verify space-rated radio frequency antennas used by the human space program.

Mr. Johnson was a key communications engineer who directly impacted the evolution of the current ISS-to-Extravehicular Mobility Unit (EMU) Space-to-Space Communications System, a foundational contribution to space communications for the Agency, as it provided seamless digital voice and data communications across multiple vehicles in space. During the development of the System, Mr. Johnson identified a previously overlooked, yet significant, design flaw involving radio frequency acquisition that disrupted functionality. Had the flaw gone undetected, the downstream costs and schedule impacts would have risked many aspects of the high-visibility project, including the ultimate deployment and operations on the STS-95 and STS-96 Space Shuttle Extravehicular Activity missions. He led the contractor support team as project manager to support the redesign effort, which resulted in successful redeployment and operational stability of the devices for all subsequent missions.

As an expert analog engineer, Mr. Johnson worked with the Chief Engineer and the technical team to help characterize and localize a significant and complex radio frequency sensitivity issue. This overall effort hallmarked the Agency's first interoperable radio communication platform used among the Space Shuttle, the ISS, and the EMU. His technical contributions directly contributed to the successful Agency cost avoidance of more than $70 million in comparison to other options. Mr. Johnson directed the negotiation of the contract of Broadcast Sports, Inc. with NASA. His involvement to quickly negotiate a unique contract with a communication system commercial vendor was instrumental to a successful partnership that produced the first wireless video system for the EMU suit helmet, an innovative capability with lasting value to the crew and mission controllers as it provided unhindered situation awareness, safety enhancement, and risk mitigation for all future extravehicular activities. Mr. Johnson also designed the helmet patch antenna needed to command and control the video cameras installed on the helmet assembly. With careful attention to quality performance, he led the verification and validation tests that were exhaustedly performed in the Anechoic Chamber to assure rigorous performance and safe functionality for the crew. Mr. Johnson's technical achievements have preserved a legacy of accomplishments. His early antenna design, development, and tests have evolved the field testing techniques and rigor used today in the verification of space flight radio antennas and devices.

Distinguished Public Service Medal

Alan D. Joynt

For exceptional dedication and Quality Engineering support leading to the successful delivery of Core Stage 1.

Mr. Alan Joynt, a Quality Engineer for the Core Stage element, regularly demonstrated his willingness to go above and beyond in support of the endeavor and for the Agency. His dedication, service, and technical abilities significantly contributed to the completion and delivery of the first Core Stage flight article while assuring both high-quality documentation and flight hardware. He led a Supplier Review Team, personally working with prime contractor personnel to coordinate and schedule reviews with critical suppliers to address issues with delivered hardware. He traveled to over 10 supplier locations and performed detailed reviews of manufacturing paperwork, planning, Government Mandatory Inspection Points, and documentation. This effort was crucial to ensuring prime contractor suppliers were in compliance with government and contractor requirements. As a direct result of his leadership and technical expertise, the team identified supplier issues that had resulted in problems with hardware delivered to the Michoud Assembly Facility (MAF). This effort brought significant visibility to manufacturing and quality issues at the supplier facilities, identified root causes, and assured necessary corrective actions were undertaken and completed. This resulted in delivery of higher quality hardware to MAF and greatly reduced the schedule and cost impacts from rework and assembly delays.

Mr. Joynt has traveled to MAF for extended time periods to contribute his invaluable knowledge and expertise to the Safety and Mission Assurance Resident Management Office efforts to implement critical changes to the insight/oversight approach while addressing prime contractor issues in manufacturing, quality, and recurring nonconformance. In this role, he helped to facilitate corrective action responses and closures between the NASA/Defense Contract Management Agency team and the prime contractor's quality team. As a result, he drove significant reductions in backlogged nonconformance paperwork and supported implementation of recurrence control, an effort that will improve manufacturing processes for future Core Stage builds. Mr. Joynt's leadership, dedication, and technical expertise were critical to the successful manufacture, testing, and overall quality of the first Core Stage and the success of the Artemis 1 mission.

Distinguished Public Service Medal

Dr. Christopher Justice

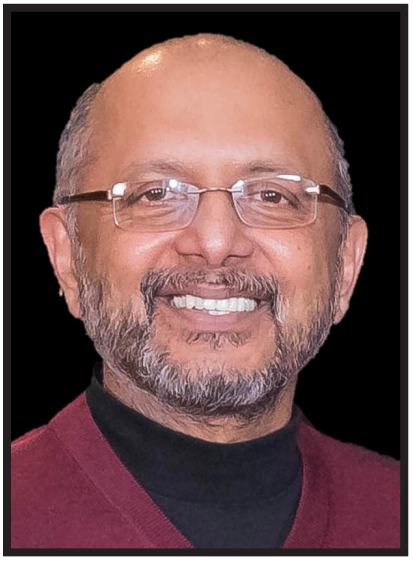
For your outstanding leadership in the development and success of the world class LANCE system, transforming the way NASA earth observation data are used throughout the world.

The Land, Atmosphere Near real-time (NRT) Capability for EOS (Earth Observing System), or LANCE, celebrated its 10th anniversary in 2019. It is extremely fitting, and overdue, to recognize the vision and distinguished service provided by the LANCE User Working Group Chairman, Dr. Chris Justice, throughout this sustained period. NASA is well known for providing high-quality satellite data for long-term science research. Because application users and operational agencies often need data much sooner than routine science processing offers, NASA developed LANCE, which provides imagery and data in less than three hours from observation for NRT applications such as severe storms, raging fires, volcanoes, ash and smoke plumes, dust storms, floods, drought, sea ice for shipping, air quality, and vegetation for agricultural monitoring.

The origins of LANCE go back to the early days of the Terra mission, when huge wildfires were burning in Montana and the United States Forest Service inquired with NASA and the University of Maryland (UMD) about NRT imagery to help fight the wildfires. In response, a Moderate Resolution Imaging Spectroradiometer (MODIS) Rapid Response System was developed with Dr. Justice's guidance. He is responsible for spearheading the NRT delivery of global active fire/thermal anomaly data, and his early work led to the development of NASA's Fire Information for Resource Management System that now distributes 230,000 fire email alerts per week to users in 188 countries.

Following September 11, 2001, there was need for improved observational capabilities to support the forces in the Middle East. The Department of Defense and National Oceanic and Atmospheric Administration worked with NASA to develop a prototype to leverage EOS data. Acknowledging the growing dependence on NRT data to serve the military, weather agencies, and first responders, NASA established LANCE in 2009 and recruited Dr. Justice to chair the project for his vision, experience, and proven track record in public service. Dr. Justice is the Department Chair of Geographical Sciences at the UMD, as well as the land science discipline team leader for MODIS and Visible Infrared Imaging Radiometer Suite Science, the program scientist for NASA's Land-Cover/Land-Use Change program; and a co-chair of international committees on Global Agricultural Monitoring and Global Observations of Forest Cover and Land-use Dynamics.

Dr. Justice played a pivotal role in establishing the policies and requirements for LANCE to ensure the integrity and low latency of the data. Through his guidance, LANCE is now a well-established capability that provides vital data and imagery to government and non-government organizations, the press, and the general public worldwide. The impact of LANCE is far-reaching, currently distributing 16.1 terabytes of data weekly to users in over 200 countries. Climate change has magnified the need for timely data products and LANCE continues to evolve to support the growing needs of the disaster response community. In large part because of Dr. Justice, LANCE is a world-class system that delivers timely data in a pioneering and effective manner. Through Worldview, a web-based imagery browsing tool, NASA imagery is now easily accessible to scientists and decision-makers around the globe, reaching thousands of visitors daily. NASA is exceedingly grateful to Dr. Justice for his leadership and contributions to the Agency and society as a whole.



Distinguished Public Service Medal

Dr. Renjith R. Kumar

For distinguished public service to NASA's mission through executive leadership and engineering contributions, focusing on technical excellence and customer satisfaction.

Dr. Renjith Kumar's contributions to NASA, beginning over 30 years ago, have had an indelible impact on the Nation's human exploration, aeronautics, science, and technological pursuits. From his engineering contributions to Agency missions, to his ownership and 22 years of executive leadership of a small company that is now providing numerous NASA Centers with hundreds of engineers, Dr. Kumar's legacy of influence on NASA's mission has truly been one of distinguished public service. He joined Analytical Mechanics Associates, Inc. (AMA) in 1989, becoming a primary contributor to redesign activities evolving the Freedom-era space station from erectable to pre-integrated trusses. Dr. Kumar led software development to allow rapid iteration through multiple assembly sequences and his efforts enabled informed decision-making in an environment with rapidly-changing programmatic and political constraints.

In 1993, while supporting a White House study of the Space Station redesign, Dr. Kumar's analyses of new configuration control and microgravity characteristics were leveraged across the three leading options, providing critical insights to White House and NASA officials during the official ISS configuration. Following his support of ISS, Dr. Kumar became involved in the groundbreaking Passive Aerodynamically Stabilized Magnetically Damped Satellite experiment, which was deployed from the Space Shuttle in 1996.

Dr. Kumar was the principal investigator of a free molecular simulation software that predicted and numerically-confirmed the feasibility of spacecraft aero stabilization. As an expert in spacecraft control systems optimization, Dr. Kumar served as a principal researcher and key contributor to the incredibly successful Gravity Recovery and Climate Experiment mission. Through free molecular flow regime aerothermal analysis, as well as, independent validation and verification of the mission's attitude and orbit control system, Dr. Kumar discovered several deficiencies in the algorithms, which were addressed accordingly and contributed to mission success.

Continually promoting technical excellence and innovation, Dr. Kumar envisioned a future where AMA would provide NASA a diversity of specialized engineering expertise with unparalleled talent. After joining the AMA ownership team, he grew the company from 5 employees in 1998 to 120 in 2012. Recognizing an opportunity to further meet NASA needs in 2012, AMA bid and was selected for the first of its large engineering contracts with NASA Langley Research Center.

Today, AMA's 400-person team continues to provide support to Langley Research Center under the $324 million TEAMS 3 contract, while also serving as the prime contractor at Ames and Armstrong Research Centers. The company's "exceptional" contract performance ratings serve as a continual reflection of the values Dr. Kumar instills in his workforce daily: product quality, technical excellence, and customer satisfaction. Impacts of his leadership are also felt within the NASA civil service workforce; due to the quality of talent attracted by AMA and their successful deployment on NASA missions, many AMA staff members have moved into NASA civil service roles and advanced into prominent positions across the Agency. The sheer number of these conversions, relative to company size, is a testament to Dr. Kumar's commitment to the technical and organizational success of NASA.

Distinguished Public Service Medal

Lon F. Miller

For exceptional leadership in managing JSC's largest and most critical contract providing crucial support to the ISS, Orion, and Artemis Programs.

Mr. Lon Miller has managed the Johnson Space Center Engineering Directorate's primary engineering support contract, JSC Engineering, Technology, and Science (JETS), and its predecessor, for nearly 14 years. Now in its seventh year, the JETS contract exceeds $1 billion in costs and fees. Under Mr. Miller's leadership, JETS has consistently received excellent performance ratings, successfully met all contract objectives, and maintained excellent performance through major transitions of the workforce size. JETS began with more than 1,000 employees, and as the full impact of Space Shuttle retirement was realized, Mr. Miller led JETS to successfully reduce its workforce by over 200 employees while retaining key skills. More recently, as JETS added over 300 employees to support exploration initiatives and the Artemis Program, Mr. Miller applied knowledge and expertise to optimize workforce planning.

Mr. Miller's leadership has been crucial to a number of significant projects successfully executed by JETS including the Capsule Parachute Assembly System (CPAS), the Alpha Magnetic Spectrometer (AMS), and the Ascent Abort–2 (AA-2) test. The CPAS project, valued at over $100 million, developed the parachutes that will be used for the Orion vehicle. Under Mr. Miller's direction, the CPAS project was recognized for excellent performance in JETS award fee evaluations, as it was consistently under budget and on schedule, and it provided critical knowledge and testing for the commercial crew providers. Under Mr. Miller's management, JETS also contributed to the development of the tools and procedures that will be utilized to conduct the most complex spacewalks in history to repair and restore the capabilities of the AMS. During Mr. Miller's tenure, JETS also provided fundamental support to JSC's AA-2 test of the Orion vehicle, which verified the performance of the ascent abort system for Orion. The successful completion of this test by JETS, with a contract value of approximately $17 million, was critical to maintaining the schedule for the Orion Program.

Mr. Miller has shepherded JETS through the complex transition to the Artemis program. In a rapidly-evolving scenario, Mr. Miller ensured that JETS retained and quickly pivoted personnel and associated workloads strategically to provide support for the Exploration Extravehicular Mobility Unit project, which may exceed $100 million in contract value, tasked with producing the spacesuit for the Artemis Program. Mr. Miller's leadership on JETS has been a critical component in JSC's support for the Artemis Program.

Mr. Miller provided effective leadership during several government shutdowns ensuring that the funding available for JETS was used to keep critical projects moving forward. Mr. Miller's leadership has also excelled at extending JETS to support other NASA Centers. In particular, the team is providing an instrument that the Glenn Research Center will fly on the Gateway Propulsion Module. Mr. Miller is an integral part of Engineering Directorate leadership team. He has been instrumental in enabling the Directorate to be successful in the rapidly changing environment of the past couple of years by creating a more badgeless society in the JSC Engineering Directorate, as well as promoting and supporting the use of mixed civil servant and contractor project teams, which retained critical skills for the Directorate and resulted in the successes of CPAS, AMS, and AA-2.

Distinguished Public Service Medal

Dr. Joseph G. Musick

For distinguished, sustained, and exceptional leadership in MSFC Medical Center services that has substantially contributed to the NASA mission.

Dr. Joseph Musick joined the Marshall Space Flight Center (MSFC) medical staff in 2007, and has served as the MSFC Medical Director for the past 3 years. Under his leadership, the MSFC health care system has reached unprecedented levels of excellence. As Medical Director, Dr. Musick has faced numerous challenges, including an ever-changing work environment, increased patient volumes, and amplified complexity of patient exams, all with an unwavering commitment to provide patients with excellent care. The MSFC Medical Center continues to be the only clinic within the Agency to maintain certification through the Accreditation Association for Ambulatory Health Care.

Dr. Musick's exemplary leadership in internal and occupational medicine has been instrumental in ensuring a safe and healthy work environment for MSFC employees. His dedication and commitment to both the staff and patients has been the key to the continued success of the MSFC Occupational Health Program. He excels as a principal advisor to Center employees in radiation safety and has established new required Occupational Safety and Health Administration (OSHA) physical exam protocols for silica, beryllium, and hydrazine. He has ensured the MSFC medical services have become the standard of care across NASA. Dr. Musick leads extensive visits to MSFC worksites to become familiar with potential stressors and exposures that employees may encounter. He identifies issues and develops strategies with his team to improve the medical process of certifying employees for OSHA-specific duties. This meticulous task of evaluating employees for certified jobs results in cost savings to MSFC and the entire NASA Agency by reducing the potential for Workers' Compensation claims.

Regarded as a wise counselor, highly respected in his field throughout the Agency, Dr. Musick's sustained achievements have resulted in a lasting impact toward advancing science and opening new frontiers of space. He has conducted countless health presentations and educational seminars and is recognized as a mentor in his profession. With a priority of empowering the MSFC workforce to live well-balanced, healthy lifestyles at work and at home, each time he conducts a presentation or provides patients with important health information, the accomplishments of his goal are achieved. Dr. Musick recognizes that a healthy workforce is productive and cost-effective, resulting in savings due to reduced absenteeism.

The MSFC Medical Center consistently receives significantly high Patient Satisfaction Survey results containing numerous accolades related to Dr. Musick and the care he renders. Respected by his colleagues and patients for his leadership abilities and expertise as an occupational physician, Dr. Musick's dedication to NASA's mission and commitment to public trust have resulted in a legacy of extraordinary achievement and distinguished service to the Nation.

Distinguished Public Service Medal

Dr. Ashot E. Sargsyan

For leadership in multinational collaboration, substantial scientific contributions in spaceflight physiology, and significant advances in operational flight medicine.

In 1996, during the Shuttle-Mir Program, Dr. Ashot Sargsyan joined the JSC team as the liaison between the Russian medical organizations and the NASA space medicine team. He immediately took on the unique and essential role of interpreting not only language, but cultural and medical technical nuances that enabled effective collaboration between NASA and Russian medical experts. Dr. Sargsyan continues to be instrumental in facilitating the cooperation between the ISS Program international partner medical communities to provide quality healthcare to crews of all nationalities aboard the ISS. He has served as the executive secretary and active member of the Multilateral Medical Operations Panel, the Multilateral Space Medicine Board, and the Multilateral Medical Policy Board since 1997. His tireless commitment has enabled the international partners to work successfully together on the implementation of medical standards, operations, certification, and policy on behalf of the ISS Program. He is recognized by the international partners as an invaluable member of this international space medicine team, using diplomacy and cultural sensitivity to solve complex and confidential problems in the most expeditious manner.

Dr. Sargsyan has also been a significant contributor to the body of knowledge guiding space medicine. His contributions to the understanding of the Spaceflight Associated Neuro-ocular Syndrome (SANS), and his development of imaging techniques to accurately characterize the changes in the eye, have been critical to our understanding of the problem. He is a consummate physician and scientist with a vast knowledge of human physiology, which he applies to issues of human health in space flight.

Dr. Sargsyan's role in the development of on-orbit ultrasound capability cannot be overstated. A fierce proponent of demonstrating the usefulness of this modality on the ISS, he has collaborated with physicians and ultrasound experts across the globe, and even with experts from the energy industry, to further NASA's understanding of fluid dynamics within the human body. The techniques pioneered by Dr. Sargsyan remain important tools for medical diagnosis and human research today. In addition to many scientific publications, Dr. Sargsyan's ultrasound work has culminated in a NASA technical memorandum for ultrasound use on ISS entitled "The International Space Station Ultrasound Imaging Overview for Prospective Users."

Dr. Sargsyan is building on this legacy by exploring the use of new devices that incorporate artificial intelligence to enable more autonomous healthcare for crew traveling beyond Earth's orbit. Dr. Sargsyan has made, and continues to make, a critical difference in current and future space flight operations through his contributions to understand SANS and other human health concerns in space, to the success of the ISS Program multilateral medical partnerships, and to the development and validation of diagnostic ultrasound equipment on the ISS.

Distinguished Public Service Medal

Dr. B. Thomas Soifer

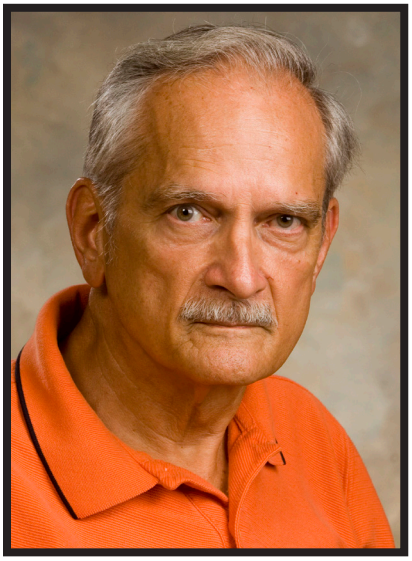
For outstanding leadership as Director of the Spitzer Science Center, dramatically advancing space astrophysics and enabling increasingly powerful future NASA missions.

For more than 20 years, Dr. B. Thomas Soifer has served as the Director of the Spitzer Science Center, the organization responsible for executing the science program encompassing the highly successful Spitzer Space Telescope. Spitzer is NASA's Great Observatory for infrared exploration of the universe; its counterparts include the Hubble (optical/uv) and Chandra (x-ray) telescopes, making Dr. Soifer 1 of only 3 scientists responsible for the success of NASA's most ambitious space observatories. As Director, Dr. Soifer made the final selection of the scientific program to be carried out by Spitzer. Under Dr. Soifer's leadership, Spitzer has fundamentally advanced our knowledge of the universe, furthering NASA's worldwide leadership in space astrophysics, providing fertile ground for more powerful NASA missions in the future, and fulfilling NASA's duty to educate and excite the general public.

The scientific results from Spitzer reflect the quality of Dr. Soifer's stewardship of this valuable NASA resource. During over 16 years of operation, Spitzer has spawned over 8,700 scientific publications and made major contributions to human understanding of heavenly bodies ranging from the nearest asteroids to the most distant known galaxies. Dr. Soifer encouraged Spitzer explorations in tandem with other NASA facilities, most notably Hubble, Chandra, and recent planet-hunting missions. Spitzer's coordination enhanced the scientific value of these companion missions, thus leveraging NASA's major investments in space observatories.

In one notable case, Dr. Soifer took a big risk and authorized a 1,000-hour program (one of the largest ever selected for execution on Spitzer Space Telescope) to observe a single star known as Trappist-1. The first 500 hours of observation of this star showed that it hosts 7 Earth-sized rocky planets, with several orbiting in the "Goldilocks zone," the region around the star where water should be liquid on a planet's surface. Such planets may be the most hospitable sites for the formation of life. The discovery of these 7 planets was stunning, and when the story appeared on the front page of the New York Times, the response was overwhelming. In addition to over 17,000 print and online articles, this discovery was NASA's most popular Twitter post. The news reached 1.2 billion viewers and the riveted outpouring contributed significantly to NASA's public relations and education efforts. The subsequent 500 observation hours helped to determine the masses and densities of the planets with less than 10% uncertainty, resulting in Trappist-1 ranking as the best characterized planetary system outside the Milky Way.

Dr. Soifer oversaw a $55 million annual budget and a staff of 100 scientists and software engineers during Spitzer's peak operational years. By fostering positive relationships with the scientific community using Spitzer, he enhanced the potential success of NASA missions in the future. Dr. Soifer has advanced NASA's leadership in space science by enabling exploration of the infrared universe with unprecedented sensitivity and precision. The impact of his stewardship will continue to grow with time, as future generations of scientists use Spitzer's rich archive of images and spectra. It will also be demonstrated dramatically in 2021, when NASA's powerful new James Webb Space Telescope builds upon the foundation established by Spitzer and probes even further into space and time.



Distinguished Public Service Medal

Ray N. Sparks

For 55 years of distinguished public service and dedicated contributions which established and sustained Mission Operations at the Huntsville Operations Support Center.

Mr. Ray Sparks began his career at NASA Marshall Space Flight Center (MSFC) in 1964. Mr. Sparks played an integral role in establishing the Huntsville Operations Support Center (HOSC) to support Apollo and Spacelab missions, and his service to NASA spans the entire life of the Space Shuttle Program. Over the last 20 years, as the total HOSC system was renovated and upgraded 4 times to keep the Center in the technology forefront, Mr. Sparks was instrumental in the system design, development, and integration to ensure smooth transitions across operations. Innovative and forward-thinking, he evolved the HOSC from expensive specialized systems to economical commodity equipment, saving the Center money while upholding quality control.

For the ISS Program, Mr. Sparks was the Payload Operations Integration Center (POIC) Systems Engineer responsible for initially designing and providing HOSC Interface Control Document definitions for Johnson Space Center's Mission Control Center. Mr. Sparks was essential in leading the effort to implement the command and telemetry data flow for the HOSC to the ISS. Mr. Sparks engineered and implemented the initial implementation of a mere 50 Mbps of data throughput aboard the ISS. He ushered 2 additional upgrades into flight that took the bandwidth to 300 Mbps, which significantly improved the payload community's ability to receive downlinked data from scientific experiments.

Mr. Sparks' most recent contribution to the ISS Program included designing the POIC ground software and hardware supporting the 600 Mbps Ku-band downlink, which became successfully operational on July 22, 2019. With twice the previous capability for downlinked data, this endeavor led to a significant expansion of science return on the ISS. These efforts have been instrumental to the increase in bandwidth capability for the return link data rates on the ISS managed equipment interfacing with the Space Network infrastructure located at the White Sands Complex, the ground Wide Area Network in coordination with the Communications Services Office, and POIC systems within the HOSC. The increased throughput capability has been a welcome upgrade for payload developers as it now allows for quicker data retrieval and it expands opportunities for remote efforts that were previously impossible due to bandwidth and/or time restrictions.

Mr. Sparks has dedicated his energy and expertise to a wide range of programs and projects at the HOSC over his illustrious 55-year career. His impact has been nothing short of spectacular. Mr. Sparks is highly deserving of the Distinguished Public Service Medal and recognition for a record of critical contributions throughout his career to the support and enhance the sustained success of HOSC, MSFC, and the Agency.

Distinguished Public Service Medal

Dr. Bobby G. Williams

For distinguished contributions to space navigation enabling NASA planetary exploration initiatives spanning the reaches of our solar system from Mercury to the Kuiper Belt.

First as an employee of the Jet Propulsion Laboratory (JPL), and subsequently as the Director of Space Navigation and Flight Dynamics for KinetX, Dr. Bobby Williams' 4 decades of work in space navigation added foundational contributions to NASA's deep space exploration enterprise, literally spanning the reaches of our solar system from Mercury to the Kuiper Belt. Dr. Williams participated in, and eventually headed, the orbit determination teams for the Viking missions to Mars, the Pioneer Venus Orbiter mission, and the Earth oceanographic mission, TOPEX/Poseidon. He participated in gravity field determination for both Mars and Venus and was a member of the Phobos Experiment team, which first determined the mass of the Martian moon from spacecraft tracking data. He was navigation team chief throughout development and flight operations of NASA's Near-Earth Asteroid Rendezvous mission, which was the first mission to orbit and land on an asteroid.

After leaving JPL, Dr. Williams founded and directed the space navigation practice at KinetX Aerospace. He collaborated with NASA on numerous Discovery and New Frontiers proposals, and KinetX became the first private company to supply critical navigation support for NASA deep space missions. Dr. Williams' team navigated the MErcury Surface, Space ENvironment, GEochemistry, and Ranging (MESSENGER) spacecraft through many historic milestones: from launch in August 2004, to a historic Mercury orbit insertion in March 2011, 4 years of precise navigation in orbit, and a delicate series of maneuvers to use every last ounce of fuel before the spectacular mission conclusion in April 2015. Dr. Williams also led the team navigating New Horizons' incredible first reconnaissance of the Pluto system in July 2015, followed by the distant Kuiper Belt object, Arrokoth, in January 2019.

Conveyed by Alan Stern, NASA New Horizons mission principal investigator, at the Southwest Research Institute, "I want to strongly support the nomination of Dr. Bobby Williams for the NASA Distinguished Public Service Medal. Williams played an integral role in making the exploration of the Pluto system and the Kuiper Belt possible by leading and mentoring the mission navigation team over 15 years. Without his leadership, long hours, dedication, and technical expertise, the historic and record-setting exploration of these bodies would simply not have been possible."

In 2011, KinetX was part of the team selected to implement the OSIRIS-REx asteroid sample return mission. When it became apparent that the proximity operations campaign with the incredible challenge of flying a spacecraft around the small asteroid, Bennu, would be much more challenging than originally envisioned, Dr. Williams brought on a senior former JPL engineer and combined talents with three junior personnel he advanced to key team leadership positions. With Dr. Williams' vision and mentorship, this amazing team overcame some of the most significant technical challenges on the mission and achieved many space navigation firsts, including the closest orbit to a planetary body (700m) and the closest flyby of a planetary body (250m). The most significant basis to merit NASA's highest recognition lies in Dr. Williams' efforts as a leader and mentor in the formation of the commercial navigation group at KinetX will continue to benefit the space navigation community decades to come.

Distinguished Public Service Medal

A. Thomas Young

For distinguished public service to NASA, including leading the independent evaluation of the James Webb Space Telescope, which was critical to ensuring mission success.

Mr. A. Thomas Young dedicated his career to serving NASA as an employee and later as an independent authority on several critically-important review panels. During his NASA career, he served as the Goddard Space Flight Center Director, Ames Research Center Deputy Director, Director of NASA's Planetary Program, and Mission Director for the Viking Mars missions. After his retirement, he continued to serve NASA on highly important independent review boards such as the Mars Independent Assessment Team in 2000 and NASA's Advisory Council in 2014.

After it was determined that the James Webb Space Telescope (JWST) launch date was slipping from October 2018 to early 2019, the Science Mission Directorate (SMD) Associate Administrator established the Webb Independent Review Board (WIRB), led by Mr. Young, to "evaluate all factors influencing the JWST success, to ensure that NASA's approach to complete the integration and testing, the launch campaign, and the commissioning of the Webb Telescope is appropriate for NASA's next flagship observatory." Estimated to cost $8.8 billion in 2018, JWST is a top priority to NASA and is included in the current National Academies' Astrophysics Decadal Survey. The WIRB team, composed of experts in engineering, science, and project management, was tasked to evaluate the mission's plans and make recommendations that would ensure mission success. This process normally takes 6-8 months to complete, but Mr. Young led the WIRB to rapidly conduct interviews with key stakeholders and visit the NASA Centers and contractor facilities responsible for developing JWST before submitting their final report in an unprecedented 2 months. Consisting of 32 technical and management recommendations, the WIRB report provided a solid path forward to successfully complete integration, shipping, launch, and commissioning of JWST, but at an impact to the Agency of an additional $800 million and another launch slip to March 2021. NASA accepted all 32 recommendations, and in August 2018, the SMD Associate Administrator re-enlisted Mr. Young and the WIRB to assess the implementation of the recommendations. After site visits and meetings with key personnel, the WIRB submitted a second report in February 2019, which determined that NASA had responded satisfactorily to 29 of the 32 recommendations, resulting in a conclusion that JWST should continue based on its scientific potential and role in maintaining U.S. leadership in civil space exploration.

Key to maintaining Agency and congressional support for JWST, the value of the WIRB reports to NASA cannot be overstated. When Mr. Young briefed the WIRB reports to the National Academies Committee on Astronomy, the reaction was overwhelmingly positive, and the NASA Administrator commented that the WIRB serves as an invaluable benchmark for how the Agency should evaluate strategic missions before significant investments are made.

Given the valuable precedent that Mr. Young set in successfully leading the WIRB, the Agency has established independent review boards on other highly visible strategic missions and programs pertaining to planetary protection and utilizing the ISS as a national laboratory. In January 2020, the JWST Program Director announced that every recommendation made by Mr. Young and the WIRB had been fully implemented to ensure JWST mission success. For his esteemed service to NASA, Mr. Young is well-deserving of the Distinguished Public Service Medal.

Acknowledgements & Special Thanks

For their support and participation in this event, appreciation is extended to the following individuals and organizations: NASA Administrator, James “Jim” Bridenstine; NASA Deputy Administrator, James Morhard; International Space Station (ISS) Program Manager, Joel Montalbano; ISS Program, Crew, and staff; and NASA Deputy Associate Administrator, Melanie Saunders. Appreciation is also eextended to NASA Center Directors: Eugene Tu (Ames Research Center); David McBride (Armstrong Flight Research Center); Dennis Andrucyk (Goddard Space Flight Center); Michael Watkins (Jet Propulsion Laboratory); Mark Geyer (Johnson Space Center); Robert Cabana (Kennedy Space Center); Clayton Turner (Langley Research Center); and Jody Singer (Marshall Space Flight Center). Thanks is also given to the Narrator (Andre Valentine); NASA Office of Communications; the NASA Television Production Team: Lacey Young, Anthony Stewart, Jim Wilson, and staff, without whom this event would not have been possible.

Additional thanks is given to the Human Resources (HR) Center Award Officer Community and the NASA Shared Services Center (NSSC) for coordinating and supporting the 2020 Administrator’s Agency Honor Awards Ceremony, as well as year-round support of the Agency’s Awards and Recognition programs.

To the extraordinary Honorees, we wish you continued success in all of your endeavors.

For the benefit of all, may you continue to give us a strong foundation to continue to explore, pioneer, and innovate, as we boldly expand frontiers in air and space to inspire and serve America and to benefit the quality of life on Earth.

Ames Research Center

Armstrong Flight Research Center

Glenn Research Center

Goddard Space Flight Center

Jet Propulsion Laboratory

Johnson Space Center

Kennedy Space Center

Langley Research Center

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