



THE **CRITICAL** PATH

A FLIGHT PROJECTS DIRECTORATE PUBLICATION ■ 2018 SUMMER ISSUE

EXO-ORDINARY! **TESS HAS LAUNCHED**

and begins its search
for exoplanets

PAGE 6

PARKER SOLAR PROBE

on a mission to
touch the Sun

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INSPIRING THE NEXT GENERATION

Goddard's interns
reach new heights

PAGE 18

FLIGHT PROJECTS DIRECTORATE | Volume 26 • Number 2

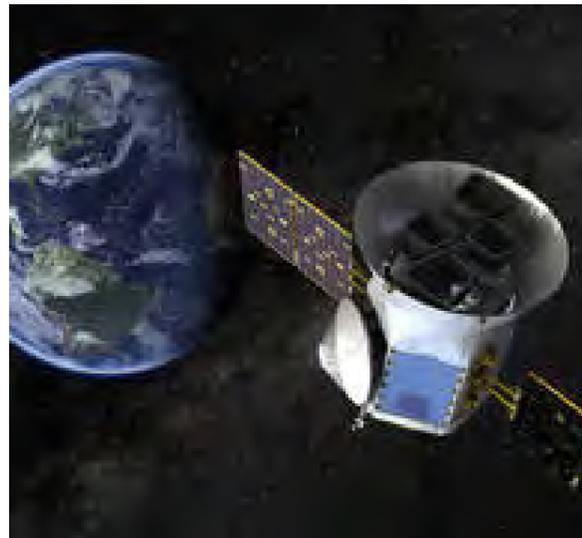
Enabling exploration and earth + space science by transforming concepts and questions into reality



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MESSAGE FROM THE DIRECTOR

THE CRITICAL PATH

PUBLISHED BY THE
FLIGHT PROJECTS DIRECTORATE

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HAVE A STORY IDEA,
NEWS ITEM OR LETTER FOR
THE CRITICAL PATH?
Please let us know about it.

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Don't forget to include your
name and phone number.

*The deadline for the next
issue is November 1, 2018*

WE'RE ON THE WEB
Visit the new
Code 400 home page
<http://fpd.gsfc.nasa.gov>



It has been an eventful summer for the Flight Projects Directorate (FPD). The Transiting Exoplanet Survey Satellite (TESS), which launched in April, officially began science operations on July 25. We look forward to great discoveries from this historic mission.

On August 12, the Parker Solar Probe (PSP) roared off the launch pad on top of a Delta IV-Heavy launch vehicle. Congratulations to the Applied Physics Lab (APL) project team, the Goddard program office, and everybody else involved with this exciting mission that will "touch the Sun".

On the heels of the PSP launch, we have a planned launch in September of the Ice, Cloud, and land Elevation Satellite-2 (ICESat-2) mission which includes the Advanced Topographic Laser Altimeter System (ATLAS) laser instrument built in-house at Goddard. ICESat-2 will be launched on the very last Delta II launch vehicle, a workhorse vehicle for NASA which first started launching in 1989 and, including earlier generations of this vehicle, dates back to 1960.

In addition to ICESat-2, we have a very busy fall season with the planned launches of the Ionospheric Connection Explorer (ICON), Meteorological Operational Satellite (MetOp)-C, Global Ecosystem Dynamics Investigation (GEDI) and Robotic Refueling Mission (RRM)-3.

We had an exciting summer hosting 102 interns in the flight projects. As part of the internship season, the Diversity & Inclusion Committee hosted a "Navigating Your Career" panel and Intern Project Showcase. Thanks to the panelists,

CONTINUED ON PAGE 4

projects, and mentors who dedicate so much time to interns and positively impact our future workforce. I enjoyed my "Let's CONNECT" chats with the interns – many shared their excitement over their visit to Wallops Flight Facility earlier this summer. I also saw some of the intern poster presentations, and was extremely impressed with the work they did while at Goddard.

We held the 1st Annual FPDFest in June, and recognized substantial contributions throughout the year, including our FPD Peer Award winners. I hope everybody enjoyed it. The concept of FPDFest came from the "Our People" team in the Senior Leadership Roundtable group. We are now seeking feedback for improvement for next year's program.

The FPD Women of Flight hosted a "Press for Progress" panel in July (moderated by Dan Krieger), with Center Director Christopher Scolese and his leadership team, George Morrow, Christyl Johnson, and Nancy Abell. They discussed their perspectives and efforts toward a more gender-equitable workplace.

FPDP Cohort #2 graduated on August 1. It was a great celebration of the accomplishments of Mellani Edwards, Wen-Ting Hsieh, Obadiah Kegege, Vanessa Soto Mejias, and Brian Thomas. Cohort #3 is well under way with all four of our candidates into their first work assignment. We hosted their first workshop on August 28 and 29 at APL.

Kudos to Pam Sullivan and Jackie Townsend, who were recognized recently by the National Oceanic and Atmospheric Administration (NOAA) for playing a critical role in the continued success of the Geostationary Operational Environmental Satellite (GOES) and Joint Polar Satellite System (JPSS) programs. Pam is NOAA's System Program Director for GOES-R and Jackie is NASA's JPSS Deputy Program Manager.

Lastly, I have been out of the office quite a bit for medical reasons, but I am back at full strength. It's really great to be back. Thanks to the FPD for their support, and in particular to Tom McCarthy and Wanda Peters for taking on much of my workload, in addition to their own, while I was away.

David F. Mitchell

Director, Flight Projects
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A WORD FROM THE DEPUTY

In the third of a **RECURRING SERIES** of messages from the FPD deputies, **DR. WANDA PETERS**, FPD Deputy Director for planning and business management, shares her thoughts on **CHANGE MANAGEMENT**.



ICESAT-2 WILL LAUNCH ON SEPTEMBER 15

(From left to right)
Don Whiteman,
Doug McLennan, Donya
Douglas-Bradshaw,
Thorsten Markus,
Mark Flanagan
(crouching),
Scott Capehart

Credit: John Satrom



TESS BEGINS ITS SEARCH FOR PLANETS!

With every new planet found orbiting a distant star, a world of possibilities opens. Our knowledge of the universe stretches. New questions arise. Exoplanets capture our imaginations. The Transiting Exoplanet Survey Satellite (TESS) will scour the skies in a 2-year mission to discover more of these distant worlds than ever before.



Ⓐ A SpaceX Falcon 9 rocket lifts off from Space Launch Complex 40 at Cape Canaveral Air Force Station in Florida, carrying NASA's Transiting Exoplanet Survey Satellite (TESS). Liftoff was at 6:51 p.m. EDT. Credit: NASA/Tony Gray



Ⓐ Zach Berta-Thompson, assistant professor, University of Colorado Boulder speaking to NASA social participants about the TESS mission at the Kennedy Space Center in Florida. Credit: NASA/Ben Smegelsky



Ⓐ Inside the Payload Hazardous Servicing Facility at the Kennedy Space Center in Florida, one of the solar panels is being deployed on TESS. Credit: NASA/Leif Heimbold

TESS launched on April 18, 2018, from the Cape Canaveral Air Force Station in Florida, and began science operations on July 25. The mission will search for transits, dips in light created when a planet orbits in front of a star, to find thousands of new worlds. Some of them may even contain life.

For more information on the TESS mission, check out:

[HTTPS://WWW.NASA.GOV/TESS-TRANSITING-EXOPLANET-SURVEY-SATELLITE](https://www.nasa.gov/TESS-TRANSITING-EXOPLANET-SURVEY-SATELLITE)

[HTTPS://WWW.NASA.GOV/FEATURE/GODDARD/2018/NASA-S-NEW-PLANET-HUNTER-SNAPS-INITIAL-TEST-IMAGE-SWINGS-BY-MOON-TOWARD-FINAL-ORBIT](https://www.nasa.gov/feature/goddard/2018/nasa-s-new-planet-hunter-snaps-initial-test-image-swings-by-moon-toward-final-orbit)

[HTTPS://WWW.NASA.GOV/FEATURE/GODDARD/2018/NASA-S-TESS-SPACECRAFT-CONTINUES-TESTING-PRIOR-TO-FIRST-OBSERVATIONS](https://www.nasa.gov/feature/goddard/2018/nasa-s-teess-spacecraft-continues-testing-prior-to-first-observations)

[HTTPS://WWW.NASA.GOV/FEATURE/GODDARD/2018/NASA-S-TESS-SPACECRAFT-STARTS-SCIENCE-OPERATIONS](https://www.nasa.gov/feature/goddard/2018/nasa-s-teess-spacecraft-starts-science-operations)

And check out the ABCs of Exoplanets: [HTTPS://TESS.GSFC.NASA.GOV/ABCS/INDEX.HTML](https://TESS.GSFC.NASA.GOV/ABCS/INDEX.HTML)

ASHLEY HUME / CODE 450
ESC PROJECTS DIVISION TECHNICAL WRITER

CONGRATULATIONS

TO GODDARD'S NEWLY CERTIFIED NASA PROGRAM/PROJECT MANAGERS

On July 25, 2018, Dave Mitchell presented NASA Federal Acquisition Certification for Program and Project Managers (NASA FAC-P/PM) certificates to nine newly-certified project managers: Gerry Daelemans (401), Donya Douglas-Bradshaw (491), Nick Jedrich (483), Sergey Krimchansky (424), Phuc Nguyen (497), Elizabeth Park (450.2), Jim Simpson (499), Tim Van Sant (400), and Mark Voyton (443).



(Left to right: Tim Van Sant, Phuc Nguyen, Gerry Daelemans, Dave Mitchell, Nick Jedrich, Donya Douglas-Bradshaw, Jim Simpson, Cecilia Czarnecki)
Photo Credit: Alicia Jose

Congratulations on your accomplishment and all the work you have done to get here!

WHAT IS THE NASA FAC-P/PM CERTIFICATION?

In April 2007, the Office of Management and Budget (OMB) announced a set of mandatory certification requirements for civilian-agency program and project managers. In response, the NASA Academy of Program/Project and Engineering Leadership (APPEL) program office developed a process to certify NASA flight program and project managers (P/PMs) who meet the rigorous competency requirements and who are managing (or will potentially

manage) projects with lifecycle costs greater than \$250 million as defined in NPR 7120.5.

NASA has determined that individuals must be proficient in 32 project management-related competencies. Eleven of the 32 competencies are "common" competencies established by the OMB. The remaining 21 competencies are determined to be critical for individuals managing NASA flight programs and projects.

Candidates for the NASA P/PM certification are nominated and vetted through their

respective center P/PM review boards. Once approved by the Center Director, the list of nominees is sent to the NASA Office of the Chief Engineer (OCE) for final endorsement. If the OCE concurs, they generate a certification letter and a certificate for the candidate. The OCE sends the certificate to the centers for distribution.

Once certified, a NASA P/PM is required to meet continuing educational requirements to ensure that they remain current on emerging technologies, standards, and practices. To recertify, NASA P/PMs are required to obtain 80 continuing education units every 2 years.

NASA currently certifies about 160 P/PMs, and a little over 100 of NASA's certified P/PMs are GSFC employees! ▲

For more information on the NASA P/PM certification requirements, please refer to the following link: [HTTPS://APPEL.NASA.GOV/CAREER-RESOURCES/FAC-PPM-CERTIFICATION/](https://appel.nasa.gov/career-resources/fac-ppm-certification/)

For more information on the competency requirements, please refer to the following link: [HTTPS://FPDSPI.GSFC.NASA.GOV/SITES/400/400FPDOFFICE/FPD/SITEASSETS/SITEPAGES/PM%20CERTIFICATION/NASA%20FAC%20PPM%20COMPETENCIES%202.PDF](https://fpdspl.gsfc.nasa.gov/sites/400/400fpdoffice/fpd/siteassets/sitepages/pm%20certification/nasa%20fac%20ppm%20competencies%202.pdf)

CECILIA ALLEN CZARNECKI / CODE 400

A MOMENT OF SILENCE: GODDARD MEMORIAL DAY EVENT 2018

Maria Romo (Code 429), in her role as vice-chair of the GSFC Veterans' Advisory Committee (VAC), once again organized this year's Memorial Day Event to honor our country's fallen service members, by placing US flags all around the Goddard 'mall' and having a moment of silence to honor U.S. service members killed in action.



BEHIND THE BADGE

GETTING TO KNOW THE FACES OF 400

CLAUDIA KROGEL

BORN:

Bogota, Colombia, South America

EDUCATION:

B.A., University of Maryland; CMPIC Master's Certification in Enterprise Configuration Management

LIFE BEFORE GODDARD:

Claudia's family, including her mother and two sisters, immigrated to Washington, DC when she was 5 years of age. Her mother, a single parent, was determined to succeed in the U.S., but the problem was that she had to learn the language first, learn a trade, and then find employment. Her determination, dedication, and hard work landed her a position at GSFC as a senior key punch operator. The family then moved to "Old Greenbelt" and lived there until Claudia completed Junior High (middle school). From there they moved to Montgomery County where she completed high school at Montgomery Blair High School (the original one). She attended the University of Maryland at College Park where she earned her B.A. degree. After graduation, she accepted a position at GSFC where life would forever change for her.

LIFE AT GODDARD:

Claudia has been a member of the GSFC community since 1981. Her GSFC career spans over 37 years of working with various exciting programs and projects that have offered her unlimited and rewarding opportunities in both personal and career growth. One of the most rewarding personal ones was meeting her husband Richard, who worked in the same building. During these years, she has expanded her skills and accepted some unique and exceptional challenges by working as a data research



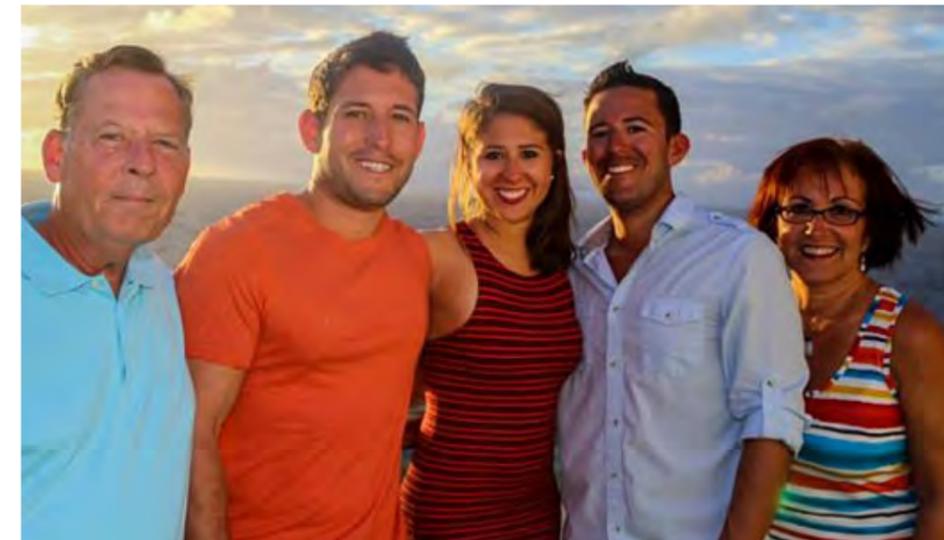
“
Laughter
is the
band-aid
of life

-Claudia Krogel

BEHIND THE BADGE

CLAUDIA KROGEL

analyst with the GSFC Tracking and Data Network, and as a documentation specialist with the Space Station project. The Polar Operational Environmental Satellite (POES) project introduced her to her current discipline of configuration management (CM). This opportunity landed in her lap as a civil servant who was the CM manager approached her one day, informed her that he was retiring, and asked if she would be interested in replacing him. The issue was



that she did not have any CM experience, but she enthusiastically accepted the challenge and position. Eleven years later, she left the POES project as a senior CM specialist and subsequently supported the Solar Terrestrial Probes (STP), Living with a Star (LWS), and GSFC Integrated Financial Management (IFMP) projects. Opportunity came knocking once more and she accepted a position with the James Webb Space Telescope (JWST) project. Fifteen years later, Claudia is still the senior CM lead, ISO implementation manager, and directives manager. In addition to supporting JWST, Claudia is involved with numerous Code 400 initiatives to promote and enhance CM policies and practices. She considers herself very fortunate with the working relationships she has developed over the years, the lifelong experiences and

challenges given to her at GSFC, and the friendships and laughter that will last a lifetime.

FAMILY:

Claudia and Richard have been married for 37 years and live in Davidsonville, Maryland. Their greatest achievements are their three children; Eric, the eldest, is a senior principal systems engineer at GSFC. He is the team lead for Code 500 administrators and supports Shared Services for the Code 500 Directorate. Patrick, the middle child, is an IT specialist with the Internal Revenue Service, and Ashley, the youngest and the most spoiled, is a nurse at Medstar Washington Hospital in the cardiovascular intensive care unit. In addition to her children, Claudia is expecting her first grandchild in December. She is finally going to be a Grammy!

LIFE OUTSIDE OF GODDARD:

Claudia loves spending time with her family and friends. She loves going boating on her sons' boats, spending time at her Ocean City condo, walking on the beach, watching the sunrises and sunsets, traveling, and discovering new places for happy hours. ▲

BEHIND THE BADGE

GETTING TO KNOW THE FACES OF 400

JESSE WALSH

Jesse is new to Code 400 as a part of the Flight Projects Development Program (FPDP) Cohort 3. Currently he is detailed to the Project Formulation and Development Office (Code 401) as a deputy formulation manager and an instrument formulation manager.

BORN:

Doylestown, Pennsylvania

EDUCATION:

BS Mechanical Engineering: United States Naval Academy

MS Civil Engineering Project Management: University of Maryland

LIFE BEFORE GODDARD:

Jesse grew up in Doylestown, PA, the same town that his parents were born and raised in. His mother, in-laws, brother, sister, and sister-in-law's family all currently live in Doylestown and Philadelphia, so a lot of time is still spent in the area. After high school and a year of prep school (thanks to blowing off the SATs) Jesse shipped off to the United States Naval Academy as part of the class of 2000.

Once graduating the Academy and being commissioned as an officer in the Navy, Jesse went to Pensacola, FL to begin 2 years of flight school, which took him to San Antonio, TX and finally to Jacksonville, FL. In Texas he foolishly, for this migrant point in his life, bought a black lab named Leia, from a crate outside of a Walmart in Hondo. Leia lovingly and loyally followed him around the country for the next 10 years. In Jacksonville he was trained to be a Naval Flight Officer (not a pilot; think Goose, not Maverick) in the mighty P-3 Orion. This is the same aircraft we fly on missions out of Wallops and to McMurdo in Antarctica. Jesse was assigned to Patrol Squadron 9 (VP-9), The Golden Eagles, at Kaneohe Marine Corps Base in Hawaii.



Three bits of knowledge that continue to serve me beyond their obvious usefulness have been to take care of the people around you, how to play Cribbage, and how to tie a Bowline knot.

-Jesse Walsh

BEHIND THE BADGE

JESSE WALSH

His first deployment was to the Far East, based in Japan. While there he also made visits to Guam, the Philippines, Thailand, Wake Island, Korea, and Yokosuka, Japan. Before he left for his next deployment to the Middle East, Jesse married Kara Wnukowski. On this deployment Jesse's air crew, comprised of 11 aviators, was one of the few P-3 air crews in this conflict to be awarded the Air Medal for their combat service overseas. After flying in support of the wars in both Afghanistan and Iraq, Jesse came home to Hawaii and spent 8 months surfing with Kara and Leia all over the island of Oahu.

Jesse's next, and final, duty station in the Navy was the Naval Research Laboratory in Washington D.C. There he acted as a Project Officer putting scientific projects on P-3 Orions. Jesse was medically disqualified from flying due to migraines, but kept up his project management duties until leaving the Navy and going to work for Clark Construction in Bethesda, MD. He worked on the construction of the Courtyard Marriott in Northeast D.C, among other projects. Jesse then had the opportunity to teach high school physics at South River High School in Edgewater, MD. He truly loved working with the college-bound young adults, especially the challenge of inspiring a passion for and understanding of science. This "dream job" only lasted one semester and with his wife pregnant with their first child. Jesse took a job with the US Army Corps of Engineers, Baltimore District. He worked for 5 years as a project and program manager building secure facilities for government agencies, as a part of a small office called the Real Property Services Field Office (RSFO). The RSFO, comprised of less than 100 people, was responsible for over \$1B of construction work a year. As a small cog of this office, Jesse managed a portfolio of over 50 projects. Here he learned the value of a small passionate team working towards a common goal. These were some very rewarding years where friends for life were made.

LIFE AT GODDARD:

In February 2016 Jesse accepted the position as the Assistant Branch Head (ABH) of Facilities Planning (Code 221) at GSFC. Jesse assisted the Real Property Program, the Directorate Facilities Planning Program, the Construction of Facilities Program, and the Cultural Resources Program. He was also the program manager for the Center Master Plan and the Center Funded Program. In support of the Master Plan, Jesse worked with Code 200 on an inter-agency agreement with the Army Corps of Engineers to contract for master planning services, as well as a support services contract through the General Services Administration to bring a much-needed master planner to work on site at GSFC. Jesse is very proud of these efforts which will, hopefully, contribute to maintaining GSFC as a premier center, leading the development of science and technology well into the future. As the Center funded program manager, Jesse was responsible for the administration of approximately \$6.7M of Center funds annually. This funding is allocated over more than 70 studies, designs, and construction projects between the Wallops and Greenbelt campuses. These projects help maintain the operational condition of GSFC's facilities and infrastructure.

Jesse comes to Code 400 via the FPDP. He was recently accepted into the program as part of Cohort 3, and is very excited to work on flight projects. His first position is within the PFDO, Code 401, and he is coming up to speed as a formulation manager.

LIFE OUTSIDE GODDARD:

Jesse lives in Edgewater, MD with his wife Kara and their two children; Zoe (8) and Nora (5). Their well-loved mutt, Trout, has joined the family, but could never replace Leia. Jesse has a hobby of collecting hobbies. He loves to collect and play board and card games, he brews beer, reads as much as time allows, and is an avid fly fisherman. He spends as much time as possible with his family, preferably in Center Harbor, New Hampshire on Lake Kanawatka. There he fishes for anything that will take a fly. He also spends time losing many hands of Spades to his card-counting in-laws. ▲

COMINGS & GOINGS

April 1, 2018 through June 30, 2018

COMINGS

- TRACY L. ZEILER** (GSFC-5860) to 423/Earth Science Data and Information Systems (ESDIS) project, deputy project manager
- NEIL F. MARTIN** (GSFC-3000) to 401/Project Formulation & Development Office (PFDO) , study manager
- JESSE A. WALSH** (GSFC-2210)to 400/Flight Projects Development Program (FPDP) Cohort #3, Administrative Manager
- PATRICK KIMVILAKANI** (Beacon Systems, Inc.) to 4901/ Mars Organic Molecule Analyzer-Mass Spectrometer-Mass Spectrometer (ExoMars Mission) (MOMA-MS) instrument project, deputy instrument project manager
- RONALD C. BENNETT** (GSFC-6030) detail to 403/Flight Projects Directorate, Business Management Office, financial management specialist
- SHARON BRAHA** (external hire) to 427/Pre-Aerosol, Clouds, and ocean Ecosystem (PACE) project, resources analyst
- CLAIRE HIGGINS** (external hire) to 428/Earth Science Mission Operations (ESMO) project office, resources analyst
- KYLE YOUNG** (external hire) to 428/ESMO project office, resources analyst
- JACK DOCKERY** (external hire) to 472/Joint Polar Satellite System (JPSS) Flight project, resources
- JONATHAN WEILAND** (external hire) to 450/Exploration and Space Communications Projects Division, resources analyst
- PAMELA MERKEL** (external hire) to 460/Explorers & Heliophysics Projects Division (EHPD), resources analyst
- ALEX KEMPLER** (external hire) to 470/Joint Polar Satellite System (JPSS) Program Office, resources analyst
- SHELBY HEFFNER** (external hire) to 460/EHPD, resources analyst

GOINGS

- JERRY ESPER** (GSFC-4200) to 585/Computing Environment & Collaboration Technology Branch, information technology specialist (security)

- CAROL GRUNSFELD** (GSFC-4800) resigned from 480/Satellite Servicing Projects Division (SSPD), division business manager
- BERT T. DIXON** (GSFC-4270) to 851/Small Satellite Projects Office, AST, Launch and Flight Operations
- JAMES M. MARSH** (GSFC-4430) – detail to 540/Mechanical Systems Division, associate division chief
- PAMELA C. SULLIVAN** (GSFC-4170) to National Oceanic and Atmospheric Administration (NOAA) Geostationary Operational Environmental Satellite-R Series (GOES)-R system program director
- JOYCE A. KING** (GSFC-4600) retired from 460/EHPD, mission manager for the GOLD mission
- RICHARD R. HARMAN** (GSFC-4440) retired from 444/Space Science Mission Operations (SSMO) project, deputy project manager
- CHRISTOPHER J. RIDENOUR** (GSFC-4050) – resigned from 405/Resource Analyst Office, operations research analyst
- BRUCE KAMEN** (GSFC-4010) to 300/Safety & Mission Assurance Directorate, Systems Review Branch, systems review manager-2)
- NICOLE D. TURNER** (GSFC-4010) – detail to Headquarters/Science Mission Directorate (SMD)/HD, program analyst

REASSIGNMENTS, REALIGNMENTS & DETAILS WITHIN CODE 400

- ROBERT T. CAFFREY** (GSFC-4980) to 490/Instrument Projects Division, deputy instrument project manager
- ROBIN KRAUSE** (GSFC-4500) to 450/Exploration and Space Communications Projects Division (ESCPD), supervisory-deputy program manager
- KEVIN C. HUGHES** (GSFC-4960) to 496/Global Ecosystem Dynamics Investigation–Light Detector and Ranging System (GEDI-LIDAR) instrument project, deputy instrument project manager
- BENJAMIN E. HALL** (GSFC-4230) to 400/FPDP Cohort #3, administrative manager
- JOHN P. VANBLARCOM** (GSFC-4240) - detail 401/PFDO, instrument capture project manager
- GARRY L. GAUKLER** (GSFC-4800) to 480/SSPD, division business manager
- FERZAN JAEGER** (GSFC-4990) to 490/Instrument Projects Division, instrument project manager
- JAMES E. SIMPSON** (GSFC-4930) to 499/L’Ralph instrument project, instrument project manager
- CATHY L. STICKLAND** (GSFC-4250) to 400/FPDP Cohort #3, administrative manager
- JOE STEVENS** (GSFC-4740) to 400/FPDP Cohort #3, AST, technical engineer operations management
- JAMIE L. DUNN** (GSFC-4170) to 417/ GOES-R Flight project, supervisory-project manager
- SRIDHAR S. MANTHRIPRAGADA** (GSFC-4901) to 440/Astrophysics Projects Division, study manager for the LISA study
- JOHN J. DEILY** (GSFC-4720) to 401/PFDO study manager
- VALERIE L. POTTER** (GSFC-4440) to 444/Space Science Mission Operations (SSMO), financial management specialist
- BENJAMIN E. HALL** (GSFC-4230) to 441/HST Operations Project, FPDP administrative manager
- TYNIKA N. RAWLINGS** (GSFC-4502) to 440/Astrophysics Projects Division (APD), financial management specialist
- JAMES H. PAWLOSKI** (GSFC-4280) to 428/Earth Science Mission Operations (ESMO) project, mission director
- TENNETTA F. STARR** (GSFC-4200) to 407/Earth Science Technology Office (ESTO) financial management specialist

CONTINUED ON PAGE 16

REORGANIZATIONS WITHIN CODE 400

RENAME 456/Space Network Expansion (SNE) to Laser-Enhanced Mission Navigation and Operations Services (LEMNOS) project (pending)

RENAME 401.2/Project Management Excellence & Innovation Office to NOAA Pre-Formulation Office (pending)

LISA HOFFMANN, CODE 400
ADMINISTRATIVE OFFICER

DID YOU KNOW...?

September is National Hispanic Heritage Month?

The start of the celebration begins on September 15th. When implemented in 1988, September 15th was selected since it is the anniversary (all in the year 1821) of the independence of five Latin American countries; Costa Rica, Guatemala, Nicaragua, Honduras, and El Salvador. Mexico, Belize, and Chile also celebrate their independence in the month of September.

We want to be in the know! If you have something to share, please send it to Code 400 Diversity and Inclusion Committee, c/o Matthew Ritsko at: matthew.w.ritsko@nasa.gov and we'll include it in a future issue of the Critical Path.



US Army 53334 Hispanic heritage dance
Credit: Ashley Henry (United States Army)
Public domain, via Wikimedia Commons



Don't miss the Hispanic Heritage Month Luncheon, sponsored by the GSFC Hispanic Advisory Committee for Employees (HACE), on Tuesday, September 25, 2018 at 12 noon in the Building 8 Auditorium.

FLIGHT PROJECTS DIRECTORATE

SENIOR LEADERSHIP ROUNDTABLE

The Flight Projects Directorate (FPD) Roundtable is comprised of senior leaders within FPD, engaging in strategic initiatives for the good of the organization, Center and Agency. This effort creates a shared leadership vision, providing a forum for identifying our competitive advantage as well as our institutional barriers, and for discussing what collaborative actions could be executed within 400's control. There is an intentional push by directorate leadership to keep the momentum going, which has already resulted in a change to the FPD Tag-Ups once a quarter to allow for the Roundtable to dedicate a half day to work strategic initiatives. The Roundtable meets monthly and has divided FPD priorities into four initiatives. We are sharing our Strategic Initiatives with the FPD community and each meeting will focus on a different element. In our latest meeting, we focused on "Shared Leadership" and planned initiatives are highlighted in green in the graphic below. ▲

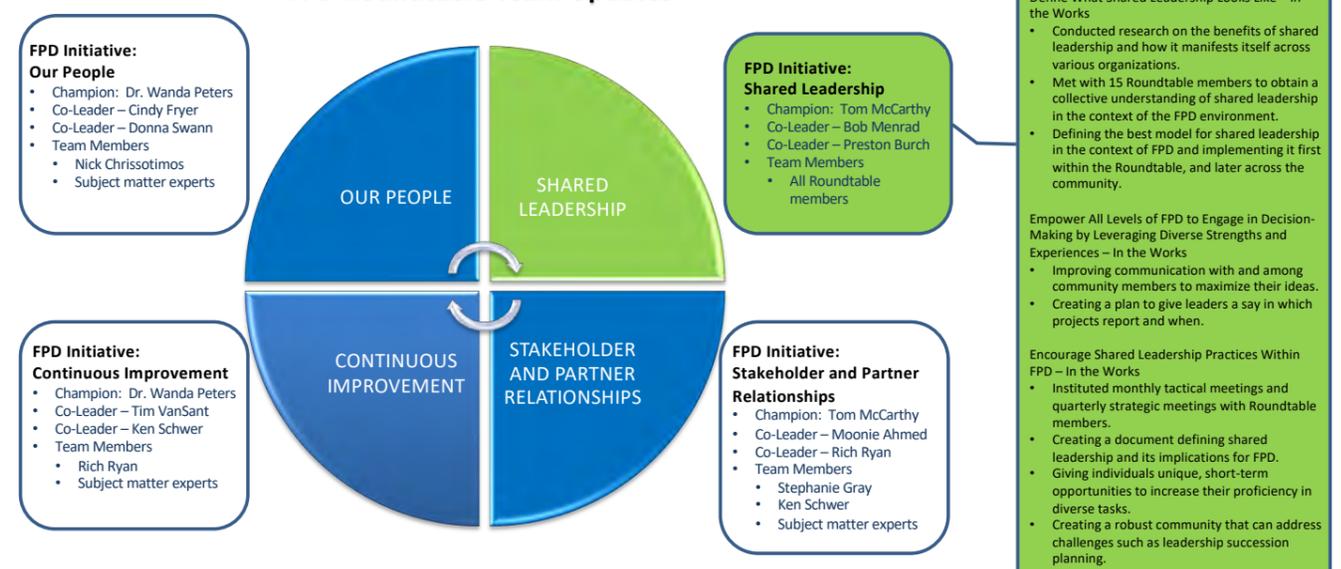
Flight Projects Directorate (FPD)/Senior Leadership Strategic Initiatives

Purpose of FPD Roundtable - Enhance Goddard's program/project management, nurture our people, influence the external environment to sustain world class capabilities, and achieve mission success by cultivating a strategic and collaborative directorate.

Shared leadership empowers leaders, strengthens team cohesion and inspires individuals to take initiative, leading to greater team performance and optimal decision-making. It enables individuals to leverage their diverse experiences and fosters active team participation in support of group goals.

FPD harnesses shared leadership to ensure team strengths are utilized and to enhance effective communication and collaboration. Shared leadership practices are most powerful when work is most complex, and this level of complexity is an everyday occurrence for FPD. The Roundtable is determining how shared leadership enables realization of FPD's goals and is extending shared leadership practices across the community in an effective and impactful way.

FPD Roundtable Team Updates



DR. WANDA PETERS/ CODE 400
FPD DEPUTY DIRECTOR FOR PLANNING AND BUSINESS
MANAGEMENT

SUMMER OF 2018 ACROSS THE FPD



Code 400 interns visited Wallops Flight Facility, where they had a guided tour of the Sounding Rocket Payload Facility, the Near Earth Network Global Monitor and Control Center, and the CubeSat ground station. The interns asked some great questions along the tour. Some interns called it the highlight of their summer experience!



The FPD Diversity and Inclusion Committee hosted over 130 interns at this year's Intern Project Showcase. The day was full of engaging questions to project teams as the interns learned about our exciting work in progress. Thanks to our Flight Projects for supporting such an outstanding event!

The FPD Diversity & Inclusion Committee sponsored a "Navigating Your Career" panel for GSFC interns, enabling interns to ask questions of the Director of Flight Projects along with other project management experts. Questions varied regarding college majors, career advice, tips to land your dream job, and more...



SETTING UP STUDENTS FOR SUCCESS IN STEM

SPACE COMMUNICATIONS AND NAVIGATION INTERN PROJECT



Interns experience the Wallops Flight Facility (WFF) rocket sounding range. Credit: Megan Miller

For the third year running, the Space Communications and Navigation (SCaN) Intern Project (SIP) at NASA Goddard challenged students to elevate their work and professional experience through 10 rigorous weeks of events, trainings, workshops, and a final presentation to management.

This year, the 33 students represented a diverse array of majors, years in school, and geographic locations; they hailed from Alaska to Puerto Rico. All 33 students submitted work that will impact the future of our space communications



Chatting with Don Cornwell at the SIP Meet and Greet. Credit: Megan Miller

networks and lead to new innovations. The program is executed at Goddard by Code 450, the Exploration and Space Communications Projects Division. It owes its success to a number of components of the program, including leadership support, strategic events, one-on-one mentoring, a strong group of alumni mentors, and the coordination team. It took a village to make this year a greater success than other years.

The students focus on collaboration as they support each other, reach out to Goddard subject matter experts, and lean on their mentors for constant

feedback. Having all of the interns' office spaces close to their mentors, including intermingled in Building 12, allowed real-time feedback and, as a result, success.



Innovation Bootcamp. Credit: Meghan Miller

But what is SIP? The 10 weeks began with a "meet and greet" with leadership and mentors that included

fun ice-breaker games and a question-and-answer session. Following were 2 days of professional development workshops that included topics like NASA's tag-up culture and using Outlook. These helped set the interns up for success during the summer.

In week two, we held our third annual Innovation Bootcamp, this year designed by George Bussey, Code 566 engineer. The



Coffee with Badri Younes. Credit: Megan Miller

students worked in teams, similar to the pace of a hackathon, to build a NASA mission and propose their idea for funding to a panel of judges. This helped them work together as a team and learn more about the collaborative nature of NASA work.

Throughout the summer, they also had many short meet-and-greet meetings on many topics, including the future of SCaN with Dave Israel, leadership mentoring with Badri Younes, and the 'Let's Connect' session with FPD Director, Dave Mitchell. The students were also able to participate in both Visitor Center and other science, technology, engineering, and mathematics (STEM) engagement events to cultivate NASA ambassadorship.

The conclusion of the project included final presentations to management and ambassadorship training, to enable them to spread the word about NASA internships to others in their home cities and universities. It was sad to see the students go, but they left satisfied they gave it their all and that the experience

had a lasting impact on their careers.

We look forward to beginning our summer intern cycle in October with our recruitment efforts to begin hiring as early as November. ▲

SANDRA VILEVAC / CODE 450

STEM ENGAGEMENT: INTERN COORDINATOR & INSTRUCTIONAL DESIGNER



WFF launch pad with Scott Schaire as host. Credit: Megan Miller

FROM THE OUTSIDE LOOKING IN

INTERN TEAM GATHERS LESSONS LEARNED



Interns view the JWST Pathfinder, used to test flight hardware

Sometimes it's the things people see and do every day that blind them to different ways of incorporating new ideas into the design, build, and test phases of space flight hardware. Five enterprising individuals hired for the summer tackled the challenge of surveying a community of project/program managers, scientists, engineers, financial managers, schedulers, quality assurance specialists, and configuration management specialists. Their goal was to gather opinions and perspectives from a wide range of interview subjects (at least 40 subject matter experts) to get their assessment of various mission phases to determine (from their experience), what goes right, what goes wrong, and how can we best learn from lessons of the past. The end product, a white paper, will be completed by October 2018.

Under the mentorship of Rich Ryan (deputy project manager/resources (DPMR) for the James Webb Space Telescope) and Kevin Carmack (Laser Communications Relay

Demonstration project manager), the team of five took on the "roles" of the subjects they would interview. Caroline Denniston (University of Pittsburgh) took on the role of project manager, delving into the daily challenges faced while keeping to schedule and cost constraints. Emily Mangus (State University of New York/Albany) took on the role of project scientist. Her

Ⓜ "ears" were especially tuned to how science objectives are met, or not met, depending on unforeseen complications. Jun Cha (New Hampton High School) took on the role of DPMR, looking at how the cost curve of the mission is affected by known and unknown issues that crop up along the path to launch. Jessica Valenti (Florida Institute



James Webb Space Telescope interns at work Ⓜ

of Technology) was the systems engineer, focusing on how GSFC manages one-of-a-kind design and testing of hardware. Daniel Becker (Towson University) looked at how the other elements of a mission (risk, quality assurance, scheduling, configuration management) play a role in the overall success of any mission.

Before the team developed their survey framework and ventured out into the community, they were given several resources that helped them understand mission phases and policies/guidelines that

While the team will continue to gather data for the next few months, some interesting quotes from their research so far offer a sneak peek into some of the perspectives of the subject matter experts interviewed so far: "Things don't happen in meetings, they happen in the hallway," NASA loves to solve problems, which is part of its problem," "The most expensive thing you can say is, while you're at it..." and "You can't learn this job from a book."

The team's white paper may not have new answers for implementing lessons learned

for future flight hardware design, build, and testing, but it may present an opportunity for a fresh and candid view of elements of a mission that will continue to highlight Goddard's strategic role as a premier testbed for some of the Agency's most challenging missions. ▲



The interns in a meeting with Deputy Director of Planning and Business Management, Dr. Wanda Peters Ⓜ

chart the course for all missions. In addition to reading NASA Procedural Requirement (NPR) 7120.5, that provides overall direction for a mission, the team also spent 12 hours viewing the **SAYLOR TRAINING SERIES**, a free online (audio/visual) space systems engineering course that examines NASA/GSFC's project life cycle, systems engineering, mission scope and requirements, as well as trade studies. The subject matter experts, all from GSFC, provide insight and best practices for future missions. The team also met with Ed Rogers, Chief Knowledge Officer at GSFC who develops lessons learned workshops for the NASA community, who helped them understand the challenges the team would face and tips for soliciting valuable feedback from the interviewees.

MAUREEN DISHAROON / CODE 443
JWST DATA MANAGER

EXPLORATION AND SPACE COMMUNICATIONS INTERNS HOLD

SUMMER CAMP DAYS AT THE VISITOR CENTER

In July, interns with the Exploration and Space Communications (ESC) projects division partnered with the Goddard Visitor Center to test new science, technology, engineering and mathematics (STEM) engagement activities during two summer camp days.



A Code 450 intern Jimmy Acevedo engaging campers at Goddard's Visitor Center. Credit: Megan Miller

Over the course of the summer, intern Jimmy Acevedo, a recent graduate from North Carolina Central University in Durham, developed a series of activities and challenges to help fourth graders understand optical communications and related concepts. Optical communications is a new communications method using laser light to transmit data from space at rates 10 to 100 times better than radio frequency systems.

Acevedo worked closely with the ESC Communications and STEM Engagement (CASE) team, as well as Visitor Center (VC) program

manager Kristin Metropoulos and her staff, to develop activities that would explain the complex technology in an easy-to-understand way for young students. Metropoulos said that this STEM engagement programming would help to enhance the Visitor Center's messaging to the public.

"Having hands-on activities in addition to our exhibits and other programming really reinforces our mission – that NASA's work benefits humanity through invention, innovation, and exploration – in tangible ways that visitors of all ages and levels of learning can understand," said Metropoulos. "The Visitor Center is the perfect environment to develop and prototype new activities. Our facility and staff see visitors from all demographics and we know what works for the public in various settings; getting to work directly with the outreach teams is a fantastic opportunity for us to get direct knowledge of the mission. Direct involvement from Goddard missions, that personal contact between NASA employees and visitors, is one of the things that makes the visitor center such a fun and unique experience for the public."

Acevedo's activities included an optical communications circuit that allowed students to transmit real-time environmental data using lasers. Acevedo used Arduino boards, optical transmitters, and a series of wires and other



miniaturized components to build the system. He developed instructions and a materials list that will be placed online so that educators, students, and parents can build their own versions for use in classrooms and for further learning.

Additionally, Acevedo developed a game called "Tele-Pong" using ping pong balls, a small antenna dish, and plastic tubes. The game demonstrates how data, in the form of the ping pong balls, can be transmitted or lost. The game helps students engage kinesthetically with learning concepts related to communications and even develop their own ideas of how to improve it.



During the VC camp days, Acevedo had the opportunity to test these activities both in a typical classroom environment with summer camp students in the auditorium, as well as with visiting students and families in the VC's gallery. The second scenario simulated a typical booth-type interaction that might be seen at large outreach events and exhibits. The ESC CASE team encounters both scenarios frequently in their work.

The Visitor Center summer camp days constituted Acevedo's eighth and ninth tests of the activities in six weeks. Metropoulos said that the Visitor Center sees, on average, 250 people per day on weekdays during the month of July, making this a perfect environment to test activities that help enhance the messaging of the VC.

Acevedo gathered feedback from activity participants and camp counselors during the course of the two days to determine how successful each activity was for his audience. "Every single career experience I've had – be it in quality assurance, upscale catering, game

development, or robotics – has driven home the incredible importance of testing and iteration. Sure, your circuit may work brilliantly in theory, or your activity might look stunning on paper, or you may claim to have worked out all the kinks in your code," said Acevedo. "However, until someone else, with another background and a different perspective, has pounded on it and kicked the tires, I remain unconvinced. No plan survives first contact with the enemy, especially when the 'enemy' is a horde of bored 8-year-olds."

These activities were created to augment a new Space Communications and Navigation (SCaN) exhibit developed by the ESC CASE team. Metropoulos and the Visitor Center team served as valuable advisors throughout the process.

“
The Visitor Center team's partnership and support was key throughout the development and creation of the exhibit.”

- Tara Dulaney Ritsko
SCaN Exhibit Project Manager

"The Visitor Center team's partnership and support was key throughout the development and creation of the exhibit," said Tara Dulaney Ritsko, the SCaN exhibit project manager. "We look forward not only to installing and updating the exhibit, but collaborating with the VC to message the concepts of space communications and schedule events to engage with the public."

Two additional interns, Reese Patillo and Ismenia Perez Bone, worked collaboratively with Acevedo this summer while developing digital space communications learning modules for a touchscreen that will serve as part of the permanent exhibit.

The new exhibit will open in September at the Goddard Visitor Center. ▲

ASHLEY HUME / CODE 450
ESC PROJECTS DIVISION TECHNICAL WRITER

WOMEN OF FLIGHT

ONWARD AND UPWARD TOGETHER



PRESS FOR PROGRESS

The Women of Flight organized a widely attended panel event with Center leadership to discuss efforts to “Press for Progress” toward gender equity in the GSFC workplace. During the panel discussion on July 9 (moderated by Dan Krieger), Center Director, Christopher Scolese, and his leadership team, George Morrow, Christyl Johnson and Nancy Abell discussed their perspectives and efforts toward a more gender equitable workplace. Over 100 participants across the Center (including many student interns) attended the event and contributed with ideas to accelerate the steady pace of progress. Several ideas for action emerged from the discussion which included: promoting

supervisory awareness and training regarding gender issues (such as promotion and anti-harassment), improving the diversity of flight project review boards as well as the make-up of scientific principal investigators, and improving family-friendly resources (such as expanding child care facilities). As a result of this event, the Women of Flight, together with the Center Women Advisory Committee, are working toward a set of initiatives to propose to the Center leaders as follow-up actions to accelerate the pace of progress. ▲

AZITA VALINIA / CODE 440
DEPUTY DIRECTOR, ASTROPHYSICS FLIGHT PROJECTS DIVISION



NOAA WOMEN IN DATA

Recent Goddard employee Pam Sullivan and current employee Jackie Townsend were recently recognized by the National Oceanic and Atmospheric Administration (NOAA) for their contributions to and work in the areas of science, technology, engineering, and mathematics (STEM).

PAM SULLIVAN – A LEADER IN THE DEVELOPMENT OF SATELLITE TECHNOLOGY



JACKIE TOWNSEND – CREATING TECHNOLOGY TO ADDRESS THE NEEDS OF SCIENCE



Pam Sullivan is the System Program Director for the Geostationary Operational Environmental Satellite (GOES)-R Series Program, and that means she’s in charge of the development, integration and launching of the Western Hemisphere’s most advanced weather-observing and environmental-monitoring satellites. She also oversees development of the ground system that receives the data from the satellites, generates data products, and distributes the products to forecasters. The GOES-R Series includes NOAA’s operational GOES East, the recently-launched GOES-17, and the upcoming GOES-T and GOES-U satellites.

Before joining NOAA, Pam managed the GOES-R Series Flight project at NASA GSFC. When it comes to developing a satellite and launching it into space, she’s done it all! Pam also served as an officer in the U.S. Air Force, training as a space shuttle flight controller and supporting military space experiments. Pam is a four-time recipient of the NASA Outstanding Leadership Medal. She holds a Bachelor of Science degree in aeronautical engineering from the Massachusetts Institute of Technology.

“I’m thrilled to see so many young women choosing STEM careers and not being intimidated by the history of this being a male-dominated industry. You work hard, you do your best, and you can do anything you choose to.” - Pam Sullivan

As Deputy Program Manager, Jackie Townsend is the Joint Polar Satellite System (JPSS) second-in-command. She works on the development, launch, testing and operation of the spacecraft of all four JPSS missions – including the now operational NOAA-20 satellite.

Jacqueline has worked at GSFC for more than 25 years. She began her NASA career working space environmental effects in GSFC’s Materials Engineering Branch. She joined the Hubble Space Telescope (HST) program in 1997, and supported the program through three successful servicing missions in several critical engineering and management roles.

She helped create programs and processes to link science needs to technology development across the breadth of NASA’s astrophysics endeavors. She also managed the Satellite Servicing Study, capturing the lessons learned from 20 years of HST missions and creating a roadmap for NASA’s servicing capabilities into the future.

Ms. Townsend holds a Bachelor of Science degree in Physics from the University of Maryland–College Park and has published more than 40 papers on space architectures, space environmental effects, and engineering management.

EXTRACTED FROM THE NESDIS WEBSITE

FOCUS ON FACILITIES

SPACE MANAGEMENT PLAN

Code 400 facility space assignment (office, lab, mission operations center, integration and testing) is a dynamic process that requires structure and routine to enable optimal options for accommodating new requirements. The Directorate is now operating using an internal guideline that documents cross-divisional inputs, checks, and balances. The Code 400 Space Management Plan is this guideline. The guideline is new in implementation and it is intended to be modified and improved as we learn and grow from it. If you have any comments, feel free to direct them to William (Bill) Glenn, Mission Support Manager.

SPACE REQUEST TOOL

Since early 2017, Code 400 has collected program, project, and mission facilities space needs using a new space request tool. This database tool is used to capture upcoming project staffing space needs and space requirements with structure, organization and transparency. While there are limited exceptions, all properly vetted requests for new space should be made within this tool. Notifications of significant status updates regarding your requests are automatically sent to requestors. Of course, the review, analysis, and detailed planning of all requests are initiated from your original entries. [CHECK OUT THE LINK](#). If you have any questions about the tool contact Jennifer Poston or William (Bill) Glenn.

JPSS COMING ON CENTER

Since earlier this fiscal year, the Center has been working a plan to house the Joint Polar Satellite System (JPSS) program on the main Greenbelt Center, with a long-term plan to terminate the lease at Greentec. Recommendations have been forwarded to the Institutional Operations Council (IOC) and Code 200 continues to put the finishing touches on the plan option(s) that represent the best solution for the Center as a whole. Once the final solution has been announced, Code 400 will begin to evaluate opportunities to refine the plan strictly from a Code 400 perspective, while preserving the integrity of base solution. Stay tuned.

ROUTINE ACTIVITIES

ANNUAL SPACE INVENTORY AND UPDATES

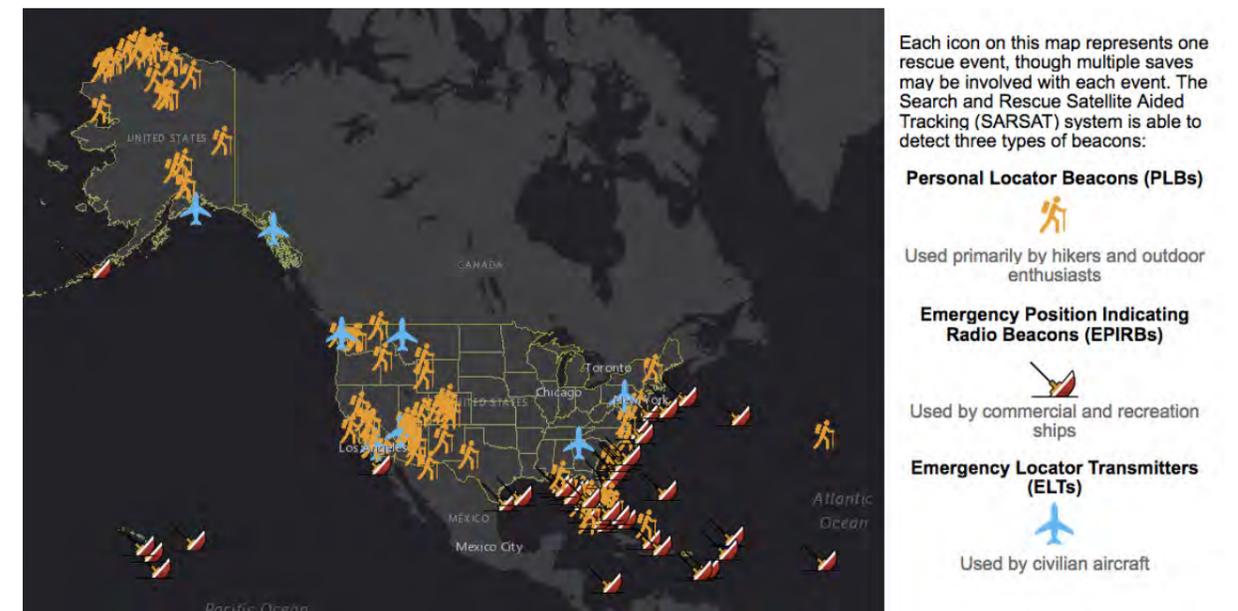
Code 200 conducted the annual space use inventory in May of this year. The findings were released in late June and each division Locator Information Services Tracking System (LISTS) monitor and housing points of contact are helping to update our records. This is a good time to be reminded that the accuracy of the LISTS data is not only beneficial for managing space but is a primary source of locating staff during potential emergencies. If you have moved recently, remind your LISTS monitor to ensure your new location has been updated.

TIMELY REMINDERS

At certain times of the year we receive an invitation to submit Center-funded requests for facilities improvement projects. Please be reminded that you need not wait to submit your requests as often the turn-around periods can be brief and we may not have enough time to develop the need adequately enough to compete among other greater institutional priorities. If you believe you have a worthwhile Center-wide benefit project, feel free to forward your requests to Bill Glenn so we are ready when the invitation comes. ▲

**BILL GLENN / CODE 400
MISSION SUPPORT MANAGER**

THE LATEST SAR SAVES NASA'S SEARCH AND RESCUE (SAR) OFFICE CONTINUES ITS EFFORTS TO DEVELOP AND IMPROVE ON LIFE-SAVING DISTRESS BEACON TECHNOLOGIES.



COSPAS-SARSAT rescues from July 2017 through July 2018 are shown above.

SPACE NETWORK ENHANCEMENTS TO PREPARE FOR NEW AGE OF EXPLORATION

In preparation for its upcoming mission to the Moon, NASA is completing a series of enhancements to its Space Network (SN), a satellite-based space communications network, to support the mission's advanced software and configuration requirements. The mission, Orion Exploration Mission (EM) 1, will venture around the Moon for 3 weeks in 2019 and will pave the way for the Agency's first manned mission to the lunar environment in more than 50 years.

The SN, operated by NASA's Goddard Space Flight Center, is comprised of a series of Tracking and Data Relay Satellites (TDRS) and ground terminals dedicated to providing continuous, global communications services for more than 40 NASA missions. Spacecraft in low-Earth orbit (LEO) can communicate with their users on the ground by sending the data to TDRS, which then transmits the data to the SN ground terminals at NASA's White Sands Complex (WSC) in New Mexico and at the Guam Remote Ground Terminal (GRGT).



The GRGT was constructed in the 1990s to close the gap in coverage, or Zone of Exclusion, over the Indian Ocean for the SN. The GRGT allows TDRS to downlink and uplink data while not in line of sight of the White Sands Ground Terminal (WSGT) in New Mexico. The antennas are protected by radomes as frequent rainy weather interferes with operations.

Credit: NASA

For the last 2 years, the SN's Transitional Extensible System Leveraging Architectural Analog Components (TESLA AC) project team at Goddard has worked with technicians at WSC and Guam to modernize the network in anticipation of Orion EM-1. The upgrades were made in parallel with regular SN support to its user missions, so the team scheduled work to avoid any communications disruptions. With these improvements, the ground terminals at WSC and Guam will be able to support the Orion EM-1 mission through multiple phases of its journey.

The changes involved include implementing a different network configuration supported by Orion EM-1, modifying the control systems and updating hardware that has become outdated. Additionally, the ground stations were upgraded to support Orion EM-1's customer mode, the Low-Density Parity-Check (LDPC) mode, which will support better error correction. The LDPC will improve data transmission and ensure that data makes it to the ground more completely and accurately.

Upgrades also satisfied a special request from the Orion mission team at NASA's Johnson Space Center (JSC) to send newly formatted tracking data messages directly from WSC to mission control at JSC.

With the completion of the enhancements, the SN will be able to support Orion EM-1 through multiple phases of launch and reentry. During launch, the SN will enable EM-1 to communicate data down to the launch console at NASA's Kennedy Space Center (KSC) and to mission control at JSC. Once Orion EM-1 reaches LEO, data regarding the vehicle's functionality and health will be communicated through TDRS to the ground terminals and sent to the engineers at JSC, allowing NASA to continuously evaluate the spacecraft. SN

services will also enable commanding of the Orion spacecraft during the early phases of the mission and upon re-entry into Earth's atmosphere. These technical assessments will later be used to design and manufacture future exploration missions, such as Orion Exploration Mission 2.



Artist's concept of the Orion spacecraft

Credit: NASA



The enhancements will also allow the SN to provide crucial communications support to the spacecraft as it is propelled out of LEO, at which point NASA's Deep Space Network (DSN), which supports deep-space environments, will take over communications support. Upon Orion EM-1's return to Earth, the SN will take over and assist the mission through reentry and landing.



The enhancements we made will enable the Space Network to continue its reliable communications services, something it has been doing since the early 1980s. By upgrading the ground terminals, we prepare for a more advanced future in spaceflight.

**-Risha George,
Goddard lead for the SN TESLA
AC enhancements**

"The enhancements we made will enable the Space Network to continue its reliable communications services, something it has been doing since the early 1980s. By upgrading the ground terminals, we prepare for a more advanced future in spaceflight," said Risha George, the Goddard lead for the SN TESLA AC enhancements.

The Goddard, WSC, and Guam groups meticulously planned the SN upgrades, ensuring none of the missions currently using the network would be negatively impacted by the changes. The teams organized a phased series of updates, individually taking the systems offline and upgrading them. After conducting tests to ensure that the enhancements were successful, they reintegrated each system back into the network.



By the late 1980s, NASA identified a need for a Second TDRS Ground Terminal (STGT). This station would serve as a backup to the WSGT in case of an emergency, continue services when outages and upgrades were planned, and expand capabilities to meet user demands. The STGT is identical to WSGT in design and is located 3 miles to the north.

Credit: NASA

The TESLA AC enhancements are currently undergoing network compatibility testing. The final operations readiness review to ensure the changes will support Orion EM-1 will occur in September. These upgrades will support future exploration missions such as Orion EM-2, which will take humans deeper into space than ever before, for years to come. ▲

**KATHERINE SCHAUER / CODE 450
COMMUNICATIONS SPECIALIST
EXPLORATION AND SPACE COMMUNICATIONS**

OUT & ABOUT

LIFE'S HIGHLIGHTS OFF CAMPUS



Congratulations to Jim Hendershot/434, L'Ralph Deputy Instrument Systems Engineer, on the birth of his newest granddaughter, Harper Jones, born in early May 2018.

Barb and Mark Hubbard (Parker Solar Probe Chief Safety and Mission Assurance Officer (CSO)/383) are proud grandparents of twin boys, Nicholas and Bronson, who were born on July 14th (Barb's birthday as well!) to Mark's daughter, Meghan, and her husband, Jared Marinos. Nicholas and Meghan were released from Inova Loudoun Hospital on July 17th but Bronson had to be treated at the Inova Fairfax Children's Hospital for over a week because of difficulties encountered during childbirth. Bronson has since received a clean bill of health after an MRI came back normal and the twins have been reunited at home as of July 23rd! Barb and Mark now have a total of nine grandchildren.



Best wishes to Ferzan Jaeger/490, L'Ralph Instrument Manager, on the birth of Ela Jaeger, born in early May 2018.



Congratulations to Alexandra Seas, daughter of Antonios Seas (Code 450.2), who was awarded the NASA College Scholarship Fund!

Alexandra is working towards a B.S. in Chemical Engineering (Biotechnology and Bioengineering track) at the University of Maryland, Baltimore County. She is a member of the Meyerhoff Scholars Program, which is leading the effort to increase diversity among future leaders in science, technology, engineering and related fields. Alexandra aspires to earn a professional degree (PhD or MD/PhD), enabling her to participate in the generation of new knowledge and technologies.



Lynn Blackwood (Code 460) and her husband John really enjoyed their recent trip to the UK and Ireland. Highlights were playing a round of golf at one of the St Andrews courses in Scotland, seeing the Kerry Cliffs and visiting the Guinness Storehouse in Ireland, and doing their own self-guided walking tour of London. Lots of sites to see there. A wonderful vacation!

In June, over the course of seven days, Zac Dolch (Code 434), his wife Cat, and her cousin Nick hiked the West Highland Way in Scotland. The hike officially covers 96 miles (154 km) from Milngavie to Fort William, taking in a huge variety of scenery along the way, from countryside parks to loch-shores and open moorlands to steep mountains. They found some parts quite challenging but enjoyed the magnificent scenery and meeting new people along the way.



HAVE YOU TAKEN AN INTERESTING OR UNUSUAL TRIP RECENTLY? SHARE YOUR TRAVEL EXPERIENCES WITH THE CRITICAL PATH READERS BY SENDING THEM TO PAULA WOOD (PAULA.L.WOOD@NASA.GOV)



Parker Solar Probe, launched on August 12, 2018 at 3:31 a.m., will revolutionize our understanding of the Sun.

It will provide new data on solar activity and make critical contributions to our ability to forecast major space-weather events which impact life on Earth. At closest approach, Parker Solar Probe will be hurtling around the Sun at approximately 430,000 miles per hour. That's fast enough to get from Washington, D.C. to Philadelphia in 1 second!

Parker Solar Probe was developed for NASA's Living With a Star program, which is managed by Goddard Space Flight Center for NASA's Science Mission Directorate. The program conducts science investigations of the Sun-Earth space environment and its effects on life and society. The Johns Hopkins University Applied Physics Laboratory in Laurel, Maryland, designed, built and will operate the spacecraft.

For more information about Parker Solar Probe, click [HERE](#).

Check out the next edition of The Critical Path for the latest exciting highlights of the PSP mission!

CREDIT: NASA

HELPING HANDS

During a recent flight to Los Angeles International Airport (LAX) to support the James Webb Space Telescope (JWST) project testing at Northrop Grumman, Steve Himes, a senior mission assurance engineer, noticed the flight attendants huddled around a woman seated a few rows back. When a flight attendant ran forward for the medical bag, Steve informed her that he was a retired paramedic and asked if he could help. The offer was accepted.

When Steve arrived at the patient's side, another passenger, an oncologist, had arrived. The patient was evaluated and found to have a very slow pulse, with very cool, ashen skin, and a pulse only palpable in the neck. The patient was placed on oxygen and an intravenous line was established running wide open to add volume. The physician stated this was outside of his area of expertise. Steve informed him that he was a retired Emergency Medical Technician – Paramedic (EMTP) with 31 years in the field, 21 years as a paramedic, and was an advanced cardiovascular life support (ACLS) instructor. The doctor's response was, "my license, do what you need to do." Steve explained that he suspected a third-degree heart blockage due to the very slow, weak, non-synchronous pulse, and listed the drugs of choice. The medical kit on board had two of the three drugs, but no cardiac monitor was available. The patient was administered the two medications, which were repeated three additional times during the flight.

The patient's condition improved somewhat, but these medications were only a stop-gap measure. The cockpit was informed that an emergency medical diversion to the closest airport was requested. When asked if that was really necessary, the reply was that unless they wanted to do CPR, yes. The flight landed approximately 18 minutes later in Wichita, Kansas, where patient care was turned over to the Wichita EMTP.

The flight to LAX resumed after about 1 hour, due to the need to inspect the aircraft, as it landed about 10,000 pounds over weight. Steve received a phone call from the patient's husband 2 days later, stating she was doing well. A pacemaker had been implanted and she was expected to recover well. Steve was characteristically modest about his assistance, saying, "It's no big deal – it's what I did for 31 years." However to the patient's husband, as to all those helped by our first responders, it was indeed a big deal. ▲

STEVE HIMES / CODE 443
JWST MISSION ASSURANCE
EDITED BY LAURA PASCHAL / CODE 443
TCP TEAM

FPDP COHORT #2 HAS GRADUATED!

I am delighted to announce that the FPDP Cohort #2 participants, Mellani Edwards, Wen-Ting Hsieh, Obadiah Kegege, Vanessa Soto Mejias and Brian Thomas, have successfully completed all requirements of the program and formally graduated on August 1, 2018. Through their dedication and excellence, they have solidified the reputation of the FPDP and have proven to be a formidable team!



From left to right:
Wen-Ting, Mellani,
Cecilia, Obadiah,
Brian, Tom, Vanessa,
Dave and Wanda

Credit: Alicia Jose

The past two years have been both rewarding and exhausting! Together, the Cohort #2 participants attended over 30 days of NASA Academy of Program/Project and Engineering Leadership (APPEL) project management related training. They completed two challenging work assignments, attended and presented at four NASA-wide project management workshops, attended monthly mentoring meetings and quarterly tag-ups. They successfully completed a demanding Capstone Project where they developed and delivered an informative video, providing essential guidance to new formulation managers. These experiences, and others, allowed them to exponentially expand their knowledge, abilities and networks.

From left to right:
Mellani, Wen-Ting, Cecilia,
Brian, Vanessa and Obadiah
celebrating with a bit
of bubbly!

Credit: Alicia Jose



I also want to take this opportunity to thank the many people who supported the Cohort along their journey:

THE FPDP GOVERNANCE BOARD, who demonstrate their commitment to the future of the Flight Project Directorate through their unrelenting support of the FPDP: Dave Mitchell (Chair), Mooni Ahmed, Pietro Campanella, Linda Greenslade (retired), Tom McCarthy, Laura Milam-Hannin (retired), Wanda Peters, Juan Roman, and Steve Shinn.

THE MENTORS who shared their valuable time, stories, lessons learned, friendship, wisdom and nurturing with the participants: Debbie Dodson, Andre Dress, Vicki Dulski, Tracy Felton, Nicholas Jedrich, Matt Ritsko, Hsiao Smith, Susan Sparacino (retired), Christine Steeley, and Jeff Volosin.



From left to right:
Mellani, Stephen Schmidt,
Wen-Ting, Debbie Dodson,
Hsiao Smith, Otilia
Rodriguez-Alvarez, Christine
Steeley, Brian, Philip Baldwin,
Obadiah and Vanessa – It
takes a village!

Credit: Alicia Jose

THE WORK ASSIGNMENT SUPERVISORS, who took a risk and provided challenging work assignments, allowing the participants to stretch and grow: Philip Baldwin, David Carter, Debbie Dodson, Lorrie Eakin, Robby Estep, Garry Gaukler, Carol Grunsfeld (retired), Matt Mazur, Sherri Platt, Steve Schmidt, Christine Steeley, Jahi Wartts, and Robert White.

THE SUBJECT MATTER EXPERTS, who thoroughly analyzed and evaluated dozens of resumes, ensuring a highly qualified pool of candidates: Mike Donnelly, Kevin Miller, Matt Risko, Otilia Rodriguez-Alvarez, Ken Schwer, and Lauri Via.

THE CODE 400 STAFF, for providing much needed guidance, support, and solutions all along the way. Kerri Anderson, Leslie Cusick, Alicia Jose, Lisa Hoffmann, Jen Poston, and Karen Rogers.

The program could not be successful without the support of all these individuals!

Please give a shout out to the members of Cohort #2 for their significant accomplishments. They have demonstrated that they have the “right stuff” to reach whatever goals they set for themselves, and to become the future leaders of the FPD, Goddard and NASA.

CECILIA ALLEN CZARNECKI / CODE 400
COHORT #2 MANAGER



2018 PEER AWARDS



OUR FIRST ANNUAL FPDFEST WAS HELD ON JUNE 27 AND FEATURED THE PEER AWARDS, ALONG WITH MANY OTHER FPD ACHIEVEMENTS. It was an afternoon packed with recognition, door prizes, food, Rita's Italian Ice, games, and a photo booth!





Jeffrey Volosin

MISSION IMPOSSIBLE

For solving every challenge the TESS project was handed. He kept a positive, determined attitude when it seemed like everything that could go wrong, would go wrong.

MATT RITSKO ACCEPTING FOR JEFFREY VOLOSIN WITH TOM MCCARTHY



Matt Ritsko

SILO SLAMMER

For his commitment to TESS, his ability to take on mentoring, outreach activities, and other responsibilities within the Flight Projects Directorate.

WITH TOM MCCARTHY

Parminder Ghuman

MISSION IMPOSSIBLE

For herculean efforts in advancing sensor development technologies.

WITH TOM MCCARTHY



La Vida Cooper

WILD CARD

For building up a dynamic and highly agile technology office, growing TEMPO's budget scope in a turbulent economic environment and adding significant value to the ESC division.

BOB MENRAD ACCEPTING FOR LA VIDA COOPER WITH TOM MCCARTHY



Ilan Vanwesel

MISSION IMPOSSIBLE

For making things on JPSS-1 that seemed impossible, possible.

WITH TOM MCCARTHY



Michelle Smith

WILD CARD

For leading the NOAA and NASA outreach team in bringing the GOES-R and S message to the public.

WITH TOM MCCARTHY

Kathy Strickler

MISSION IMPOSSIBLE

For your creativity and dedication in leading the ICESat-2 ATLAS I&T team in the complex two step I&T process at the OATK factory in Arizona.

TOM MCCARTHY WITH DAVE NAVES ACCEPTING FOR KATHY STRICKLER



James (Jim) Perry

WILD CARD

In recognition of your dedication and perseverance in support of the successful WFIRST conceptual design phase.

WITH TOM MCCARTHY



CONTINUED ON PAGE 44



John Satrom

**WILD
CARD**

For your dedication to the ICESat-2 mission in leading the launch planning process across multiple organizations to ensure the final Delta-II launch is safe and successful.

WITH TOM MCCARTHY



Lisa Bartusek

**STEADY
HELM**

For being the steady guide through the turmoils of WFIRST Phase A.

CHRISTINE STEELEY ACCEPTING FOR LISA BARTUSEK WITH TOM MCCARTHY

Robert Montgomery

**MENTOR
"UNDER YOUR WING"**

For being a Great Mentor and he doesn't even know it.

TOM MCCARTHY WITH SALLY LIM AND MATT MAZUR ACCEPTING FOR ROBERT MONTGOMERY



Jim Simpson

**STEADY
HELM**

For his accomplishment Leading the LCRD Payload Project During Challenging Conditions.

GLENN JACKSON ACCEPTING FOR JIM SIMPSON, WITH TOM MCCARTHY



Elizabeth Forsbaka

**MENTOR
"UNDER YOUR WING"**

For serving as an exemplary role model, taking the time to be an official as well as unofficial mentor, and for your passion for all STEM activities while maintaining excellent leadership on WFIRST.

WITH TOM MCCARTHY



Eric Gorman

**STEADY
HELM**

For Navigating Science and Engineering and steering the OCI Instrument to PDR

KATHY MCINTYRE ACCEPTING FOR ERIC GORMAN, WITH TOM MCCARTHY

Andre Young

**MENTOR
"UNDER YOUR WING"**

For your extraordinary concern and drive to ensure peers, mentees and the community have the tool necessary to succeed.

WITH TOM MCCARTHY



Mike Bruckner

**STEADY
HELM**

For your expert guidance, leadership, and plate-spinning skills during the JPSS-2 Observatory development through Spacecraft and Flight Critical Design Review.

LAURA VIA ACCEPTING FOR MIKE BRUCKNER, WITH TOM MCCARTHY





Gary Davis

BOUNDLESS ENERGY

For his boundless energy for PACE, the individual team members, and future scientists and engineers is contagious and just what PACE and NASA needs.

WITH TOM MCCARTHY

Carlos Virreira

ROOKIE OF THE YEAR

For outstanding performance in his rookie year as Project Support Specialist on the Joint Polar Satellite Program Ground Project.

WITH TOM MCCARTHY



Casey Hoercher

BOUNDLESS ENERGY

For being an integral part of the Mission Operations Support Team during the entire mission campaign.

WITH TOM MCCARTHY



Marissa Nicole Luedtke

ROOKIE OF THE YEAR

This nomination is to reward Marissa Luedtke for being our Rookie of the Year. Her dedication and commitment is the epitome of excellence and an example for others to follow.

WITH TOM MCCARTHY



William Paradis

BOUNDLESS ENERGY

For being an integral part of the Mission Operations Support Team during the entire mission campaign.

KELLY CATLETT ACCEPTING FOR WILLIAM PARADIS WITH TOM MCCARTHY



Edward Allen Fleishman

ROOKIE OF THE YEAR

In recognition of your professional dedication and agility in creating new scenario-based analytical tools in support of the Restore-L Project.

WITH TOM MCCARTHY



Parameswaran Nair

ROOKIE OF THE YEAR

For your rapid growth and excellent performance in stepping up to be the OLI-2 Instrument Manager.

LORRIE EAKIN ACCEPTING FOR PARAMESWARAN NAIR WITH TOM MCCARTHY



Julie Janus

UNSUNG HERO

For her can-do attitude, dedication, ingenuity, and commitment have directly contributed to the success of the WFIRST Project.

WITH TOM MCCARTHY





Donnie Gates

UNSUNG HERO

For the significant launch preparationsensured that TESS had a proper holding stationand that the team had suitableworking accommodations at KSC.

WITH TOM MCCARTHY



Hsiao Smith

INCLUSION FUSION

For your recognition of dedication todiversity and inclusion.

WITH TOM MCCARTHY

Beverly Coggins

UNSUNG HERO

For being someone that everyone relies on to always help, get the job done quickly and effectively and having huge shoulders to carry the loads.

WITH TOM MCCARTHY



Dave Littmann

HANG TEN

For your outstanding leadership in transforming SGSS project processes to generate significant, measurable progress.

BOB MENRAD ACCEPTING FOR DAVE LITTMANN, WITH TOM MCCARTHY



Chris Webb

UNSUNG HERO

For his unsurpassed in dedication, dependability & drive whose consistent, expert planning support to the JPSS Flight Project makes him an invaluable business asset.

WITH TOM MCCARTHY



Dawn Sierfeld

UNSUNG HERO

For enabling successful life cycle reviews for Landsat 9 through efforts generally only appreciated by an informed few, who pay close attention to the generation of review material.

WITH TOM MCCARTHY



There's no time like the present..

to start thinking about all of the wonderful people who have supported you or been your special "peer" in the past year.

Do you think they should have been included in group above?

In 2019 - If you think they're great...

NOMINATE!

2017 ROBERT H. GODDARD

A W A R D R E C I P I E N T S

The Robert H. Goddard Awards ceremony was held on Tuesday, April 17, 2018, and recognized exceptional achievement in the following areas. Below are the recipients from Code 400.

EXCEPTIONAL ACHIEVEMENT AWARD FOR: CUSTOMER SERVICE (INDIVIDUAL AND TEAM RECOGNITION)



GERARD DAELEMANS - In recognition of outstanding customer service as Formulation Manager for your leadership and execution of the HiSpecs Instrument Project Formulation Plan.



MARISSA LUEDTKE - For demonstrating superior service exceeding Landsat 9 customer's goals through proactive process improvements.



GARY MATTHEWS - For sustained and superior customer service spanning 15 years to successfully design, validate, and deliver key optical test hardware for JWST.



CRYSTAL MCCLIDE - For Outstanding Service to internal and external customers in achieving mission success of the GOES-R Data Operations System.

CUSTOMER SERVICE (INDIVIDUAL AND TEAM RECOGNITION CONTINUED)



DAWN SIERFELD - For exceptional customer service and improvements to the Technical Data Management System for use by the Landsat 9 project.



CYNTHIA STARKS - For your phenomenal customer service as the Networks Operations Manager (NOM) for Expandable Launch Vehicles and the voice of the Space Network.



HARRIS CORE GROUND SYSTEM DEVELOPMENT RECOVERY TEAM - For dedicated support in recovering 11 months of GOES-R Ground System schedule in the last 24 months prior to launch.



MAGNETOSPHERIC MULTI-SCALE FLIGHT OPERATIONS TEAM - For extraordinary operations of Magnetospheric Multi-Scale.



SPACE NETWORK SCHEDULING & OPERATIONS TEAM - For Outstanding Space Network Support for the Magnetospheric MultiScale (MMS) Apogee-Raising Campaign.

ENGINEERING (INDIVIDUAL AND TEAM RECOGNITION)



TIMOTHY GASPARRINI - For your exceptional technical and programmatic leadership in the development of the GOES-R Satellite and instruments.



RYAN LEBOIS - For your outstanding support of the Transiting Exoplanet Survey Satellite (TESS) trajectory design and Flight Dynamics System development.



TIMOTHY WASSERMAN - For engineering and operations support of the Raven technology demonstration mission on the International Space Station.



GOES-R SPACECRAFT DEVELOPMENT TEAM - In recognition of the GOES-R Satellite Development Team for technical excellence in the development of the most advanced American geostationary weather satellite to date.



HARRIS ENGINEERING GROUND SYSTEM SCHEDULE RECOVERY
For outstanding engineering excellence in recovering 11 months of GOES-R Ground System schedule in the last 24 months prior to launch.



LCRD OPTICAL MODULE TEAM - For successful completion in assembly and test of Optical Modules, Controller Electronics, Optical Test Set, and Pointing, Acquisition, and Tracking system for LCRD.

ENGINEERING (INDIVIDUAL AND TEAM RECOGNITION CONTINUED)



RAVEN TEAM - For dedication and teamwork leading up to the launch of the Raven Technology Module to the International Space Station.



TIRS-2 TELESCOPE, OPTICS, DETECTOR ASSEMBLY TEAM - For demonstrating excellence in implementing the Telescope and Optics Assembly performance improvements and completing the design, assembly, performance tests, and delivery.

GODDARD SPACE FLIGHT CENTER LEGACY AWARD



DAWN LOWE - For recognition of exceptional leadership and significant contributions to the development and operations of NASA's key ground and science systems.

LEADERSHIP



DONYA DOUGLAS-BRADSHAW - For superior leadership during the challenging time following the ATLAS laser anomaly and the exceptional motivation of your team as they progress toward a successful mission.



TRACY FELTON - For your devotion to promoting an environment of trust and inclusion and your outstanding, high-performing leadership style.

LEADERSHIP (CONTINUED)



SRIDHAR MANTHRIPRAGADA - In recognition for your outstanding leadership as the NICER mission project manager.



PAMELA SULLIVAN - For your outstanding leadership of the flight project for the GOES-R program, and execution of the launch of the GOES-R satellite.



CHRISTOPHER WHEELER - For sustained outstanding leadership of the Geostationary Environmental Satellite Program R-series (GOES-R) Mission Operations Team.

MENTORING (INDIVIDUAL AND TEAM RECOGNITION)



JOANA LAUDERDALE - For outstanding mentorship in support of personal and professional growth by members of the Landsat 9 resources team.



SSPD INTERN COORDINATORS TEAM - For your commitment and professionalism in organizing the program for the 2017 Satellite Servicing Projects Division summer interns.

MISSION AND ENABLING SUPPORT (INDIVIDUAL AND TEAM RECOGNITION)



CHRISTOPHER MORRIS - For your exemplary mission support and leadership that led to the successful execution of launch operations of the GOES-R Series GOES-16 satellite.



OGS-2 FACILITIES MODIFICATION TEAM - For your outstanding contributions to creating a facility that supports brand-new optical communications capabilities for the LCRD mission.



ORION OPTICAL COMMUNICATIONS STUDY TEAM - For your persistence in evolving and implementing enhanced communications technologies and advancing critical mission support.

OUTREACH (INDIVIDUAL AND TEAM RECOGNITION)



CHRISTOPHER GUNN - For exceptional contributions to the James Webb Space Telescope communications team in the form of outstanding photography.



ASHLEY HUME - For your outstanding work in communicating the Goddard Exploration and Space Communication (ESC) division's ongoing projects and evolving technologies to outside entities.

OUTREACH (INDIVIDUAL AND TEAM RECOGNITION CONTINUED)



ANGELA MASON - For furthering the vision and values of NASA and GSFC through diverse outreach.



GOES-R LAUNCH COMMUNICATIONS TEAM - For the implementation of a highly-effective communications strategies resulting in the most covered launch in GOES program history for the launch of the GOES-R satellite.

PROFESSIONAL ADMINISTRATIVE (INDIVIDUAL AND TEAM RECOGNITION)



SARAH DUREJA - For your exceptional administrative expertise, remarkable customer support, and exemplary performance throughout the development of GSFC's in-house Instruments.



JERRY ESPER - For outstanding IT security contributions that enable GSFC and the Earth Science Projects Division's scientific, technical and mission performance.



LAUREN GACHES - For your exemplary performance leading and transforming the GOES-R Program office through the launch and post-launch testing phase of the GOES-R satellite.



CATHERINE LYNCH - For dedicated support that greatly contributed to the ongoing financial success of the Landsat 9 mission.

PROFESSIONAL ADMINISTRATIVE (INDIVIDUAL AND TEAM RECOGNITION CONTINUED)



EILEEN MITCHELL - For more than a decade of dedicated support to the James Webb Space Telescope team, applying efficiency, strategy, and customer service to the "human element" of the mission.



KERRI SCHAPPELL - For outstanding contributions and improved processes for the administration of both the Earth Science Projects Division and Flight Projects Directorate.



LYNETTE SULLIVAN - For exceptional configuration management for the PACE Mission and OCI Project during the challenging pre-formulation phase and beyond.



JAHI WARTTS - For your personal commitment to the mission success, high degree of integrity, solution oriented approach, and demonstrated excellence.



CODE 400 CAREER PATHS DESIGN & IMPLEMENTATION TEAM - For being innovative and determined to create and implement a very successful career path tool to help employees and supervisors navigate careers within the Flight Projects.



ESPD RESOURCE MANAGEMENT TEAM - For your outstanding contributions in enabling Earth science projects to achieve exceptional cost, schedule and technical commitments and performance.

PROFESSIONAL ADMINISTRATIVE (INDIVIDUAL AND TEAM RECOGNITION CONTINUED)



GEDI BUSINESS TEAM - For the outstanding management of Global Ecosystem Dynamics Investigation (GEDI) Cost Cap Accommodation Financial Resources Schedule, and Earned Value Metric.

QUALITY & PROCESS IMPROVEMENT AWARD



CATHERINE BARCLAY - For your exceptional tenacity in innovating creative solutions that improve various aspects of Goddard's space communications activities.

ROBERT H. GODDARD AWARD OF MERIT



KAREN HALTERMAN - For exceptional performance and substantial contributions to the success of several Goddard missions throughout your extensive career.

SECRETARIAL/CLERICAL



AYANNA SHORTER - For exceptional administration of all travel within the Satellite Servicing Projects Division.

SUPERVISION AWARD



LORRIE EAKIN - For outstanding leadership, management, and motivation of the Landsat 9 resources team during an especially challenging budget environment.

SUPERVISION AWARD



DIANE HRONEK - For the exceptional management of the Earth Science Data & Information Systems project team and your commitment to developing GSFC organizational talent.

TECHNICIANS/WAGE GRADES (TEAM)



JWST GSFC ISIM-OTIS TECHNICIAN TEAM - For the repeated ingenuity that provided crucial contributions to successfully integrate JWST's Integrated Science Instrument Module with its Optical Telescope Element.

FLIGHT PROJECTS

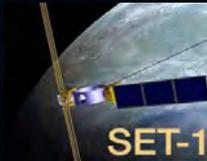
LAUNCH SCHEDULE 2018



8/2018
Parker Solar
Probe (PSP)



9/2018
Space
Ice, Cloud and
land Elevation
Satellite
(ICESat)-2



10/2018
Space
Environment
Testbed (SET)-1



10/2018
Ionospheric
Connection
Explorer (ICON)



11/2018
Global Ecosystem
Dynamics
Investigation
(GEDI)



11/2018
Robotic
Refueling
Mission
(RRM)-3



12/2018
High Resolution
Mid-Infrared
Spectrometer
(HIRMES)



11/2018
Meteorological
Operational
(MetOp-C)

AUGUST

SEPTEMBER

OCTOBER

NOVEMBER

DECEMBER