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Goddard View

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GoddardView

TRENDING

Climate Change Scientist Honored With Earth Science Award
Claire Parkinson, Goddard climate change senior scientist, received the William Nordberg Memorial Award in Earth Science for decades of achievement in the field. She delivered a talk on climate change following the ceremony.

Goddard and Columbia University Sign Space Act Agreement
Goddard and Columbia University signed a Space Act Agreement on May 29 to continue cooperation in Earth science research. The Goddard Institute for Space Studies is located on the main campus of Columbia.

Internet Pioneer Visits Goddard
Vinton Cerf, widely considered one of the "fathers of the Internet," delivered the keynote address at Goddard's Excellence in Information Science and Technology award ceremony. He spoke about the Internet's development as well as its evolution into the future.

Goddard Welcomes 2015 Summer Interns
Nearly 400 students arrived at Goddard on June 1 to begin their internships for the summer. The interns met with their mentors and were greeted by a message from Center Director Chris Scolese.

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On the cover: Medal of Honor recipient Kyle White (left) accepts a commemorative plaque from Center Director Chris Scolese following his Memorial Day keynote address. Photo credit: NASA/Goddard/Bill Hrybyk

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GoddardView **Info**

Goddard View is an official publication of NASA's Goddard Space Flight Center in Greenbelt, Maryland. Goddard View showcases people and achievements in the Goddard community that support the center's mission to explore, discover and understand our dynamic universe. Goddard View is published by the Goddard Office of Communications.

You may submit story ideas to the editor at darrell.d.delarosa@nasa.gov. All contributions are subject to editing and will be published as space allows.

'SOLARIUM' GOES TO THE BIG APPLE

By Sarah Frazier

This year's World Science Festival in New York City highlighted several projects from NASA's Goddard Space Flight Center, including a dramatic new digital art installation that zooms in on vistas of the sun's dancing surface.

Currently on permanent display at Goddard's visitor center, "Solarium" combines science and art to introduce people to the sun in a way they may never have seen before, fitting in with the festival's mission of bringing science to the public. People who have long thought of the sun as an unchanging point of light may be surprised to see its boiling surface, loops, flares and ejections.

During the festival in May, the exhibit was shared at the Kimmel Center on the campus of New York University by Genna Duberstein, lead producer of "Solarium," and Alex Young, associate director for science in Goddard's heliophysics science division.

"People often don't recognize that it is the sun," said Duberstein.

The impressive imagery was also of interest to some teachers at the festival. "Some teachers talked to me about how they were interested in science, technology, engineering, arts and mathematics – or STEAM – education," Duberstein added. "They were really interested in how 'Solarium' fits into that."

Young gave several talks with "Solarium" as a backdrop. "One of my talks was the last talk of the day, and it was packed," Young said. "Usually in that time slot, there aren't many people."

Audience members asked him questions for almost an hour. "Often the younger audience members ask the best questions, because they're not self-conscious about asking something too basic," he added. "Sometimes the simple-seeming questions are the most challenging to answer, because we just take those things for granted."

"Solarium" is the brainchild of Duberstein, Video Producer Scott Wiessinger and Data Visualizer Tom Bridgman. Using imagery from NASA's Solar Dynamics Observatory, Goddard producers created the time-lapse, immersive footage that pulls viewers right into the heart of the sun when they view "Solarium." One minute of footage is the result of roughly 10 hours' worth of work.

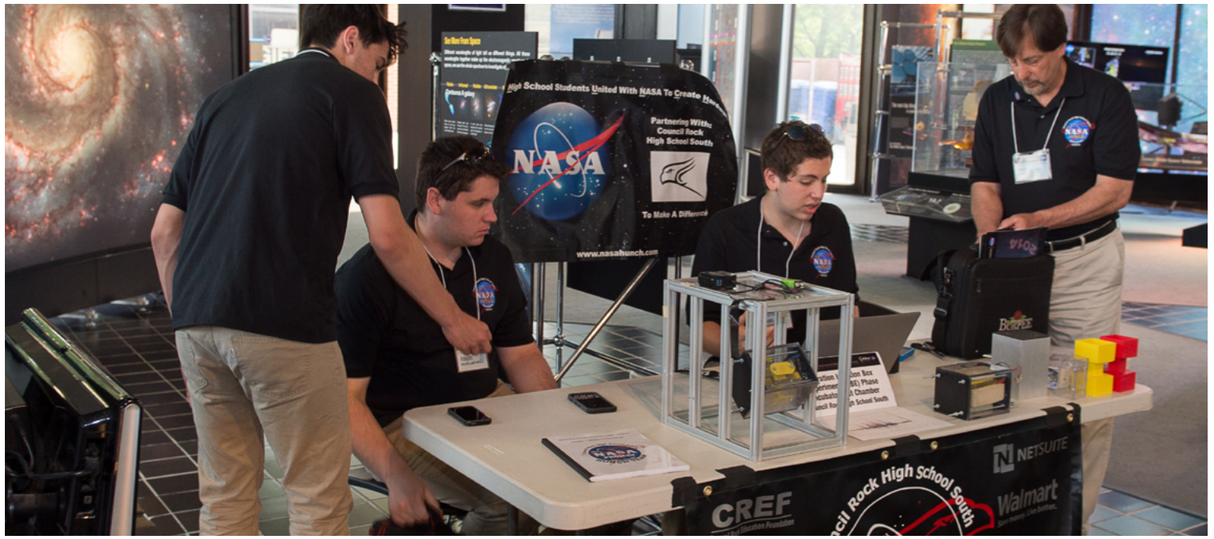
The exhibit has been installed in several venues and is site-specific, meaning it can be adapted for a variety of spaces. It has been presented on flat walls, curved walls and even on a bent wall, like at the visitor center.

"Solarium" isn't just imagery, though. Accompanying the looping footage is a soundtrack also based on solar data. Alexander Kosovichev, a solar scientist at Stanford University, used Doppler data from the sun to create a deep, thrumming soundtrack to accompany "Solarium."

The exhibit will be installed later this year at museums in Virginia and Louisiana. ■

Above: Alex Young, associate director for science in Goddard's heliophysics science division, talks about heliophysics in front of a "Solarium" backdrop at the World Science Festival in New York City.

Photo credit: NASA/Linda Schenk



By Jacqueline Lofton

Many students often dream of becoming astronauts when they grow up, but in some instances it's the students who are giving assistance to those floating in space. The High School Students United With NASA to Create Hardware program is one such way that NASA is engaging aspiring space explorers in the agency's work on a beginner's level that is both real and practical.

An instructional partnership between NASA and high and intermediate schools, HUNCH works with students to design cost-effective hardware for the International Space Station and the training of astronauts. The program allows NASA engineers to work one-on-one with students, encouraging the students to expand their learning beyond textbooks and traditional classrooms.

In May, NASA's Goddard Space Flight Center welcomed HUNCH students from five schools in Maryland, New Hampshire, New York and Pennsylvania for an open house event.

"The event provided participating HUNCH teachers, students and their families the opportunity to see and experience this amazing NASA facility," said Robert Thate, program manager for HUNCH at Goddard.

The open house also gave students and their teachers a chance to showcase the projects they have completed under HUNCH. During a gathering at the visitor center, the schools presented their designs for a single-storage locker assembly for the space station. They also laid out models for actuators, mechanical pencils and containment chambers, all of which will support NASA's space and technology ventures. In some cases, students will receive NASA certifications for the development of training hardware.

"This project has built an understanding of engineering design for the students," said Mark Harris, engineering instructor at the Ulster Board of Cooperative Educational Services in New York state. "It has provided them with hands-on experience by creating, building and perfecting unfamiliar concepts and ideas."

After additional presentations and demonstrations, students toured different parts of the center, including the hardware machine shop, the James Webb Space Telescope clean room and the satellite servicing and capabilities office. Each stop on the tour included a talk given by a Goddard engineer, technician or scientist.

The program is designed to be mutually beneficial. As students build hardware for NASA, they also build interest in becoming future researchers. In addition, it shows students that there are technical opportunities available once they begin their careers, and it gives them an understanding of what it feels like to work in the real world.

"HUNCH provides a unique opportunity for teachers and students to ground their educational efforts into an inspirational reality," said Thate. ■

Above: HUNCH students and an instructor from Council Rock High School South in Pennsylvania present their project designs during a Goddard open house event.

Photo credit: NASA/Goddard/Bill Hrybyk

HAVING A HUNCH: GODDARD HOSTS NEXT GENERATION OF SPACE EXPLORERS

GODDARD PIONEER JOINS THE RANKS OF LEGENDARY INVENTORS

By Cynthia O'Carroll

Over the course of his career in private industry and at NASA's Goddard Space Flight Center, George Alcorn designed more than 30 inventions and received eight patents for his work. In May, the pioneering African-American physicist and engineer was inducted – along with 13 other inventors – into the National Inventors Hall of Fame during ceremonies at the Smithsonian American Art Museum and National Portrait Gallery in Washington, D.C.

Inductees must hold a U.S. patent that has contributed significantly to the nation's welfare and the advancement of science and useful arts.

Alcorn was honored in the flight and exploration category for leading a four-person team that invented the first X-ray imaging spectrometer, a device that allows scientists to identify chemical elements using X-rays, via aluminum thermomigration – a small-scale manufacturing process. The device set the stage for significant changes in deep space exploration methods.

Alcorn and his brother Charles became interested in science technology while working in their father's auto mechanic business. Both went on to become accomplished physicists.

"My father was always my idol," Alcorn said. "I was impressed with his brilliance. He taught me that all obstacles in life could be overcome by hard work and determination. I applied this philosophy throughout my career."

Alcorn arrived at Goddard in 1978 and held many leadership positions in research and administration over the next 34 years. Early on, he served as the deputy project manager of advanced development, leading teams that designed technologies for the space station Freedom – a project that eventually evolved into the International Space Station. Alcorn later ran the Goddard Evolution program, which oversaw development and operations for the center's future growth. He then led a space shuttle experiment that utilized Robot Operated Material Processing Systems. The experiment involved the manufacturing of material in the microgravity of space.

Alcorn championed programs aimed at recruiting minorities and women to NASA. In 1984, he was awarded the NASA Equal Employment Opportunity Medal.

In 1992, he served as the director of the Goddard Office of Commercial Programs, encouraging the transfer of Goddard's aerospace devices and procedures to private industry for use in business, research and education. Alcorn led the program that established NASA's first technology incubator in Baltimore.

In 2010, he received the Robert H. Goddard Award for Merit for his outstanding innovation and significant accomplishments in space science and technology. The agency awarded him the NASA Exceptional Service Medal in the same year.

The Institute for Electrical and Electronics Engineers has honored him for his historical contributions to the fabrication of semiconductor devices by plasma.

Congress has also recognized Alcorn's work. In 2001, then-Del. Donna Christian-Christensen, D-Virgin Islands, gave him a special congressional recognition for helping businesses in the island territory apply NASA technology to their work. In 2003, Sen. Dianne Feinstein, D-Calif., acknowledged his career during a celebration of black achievement.

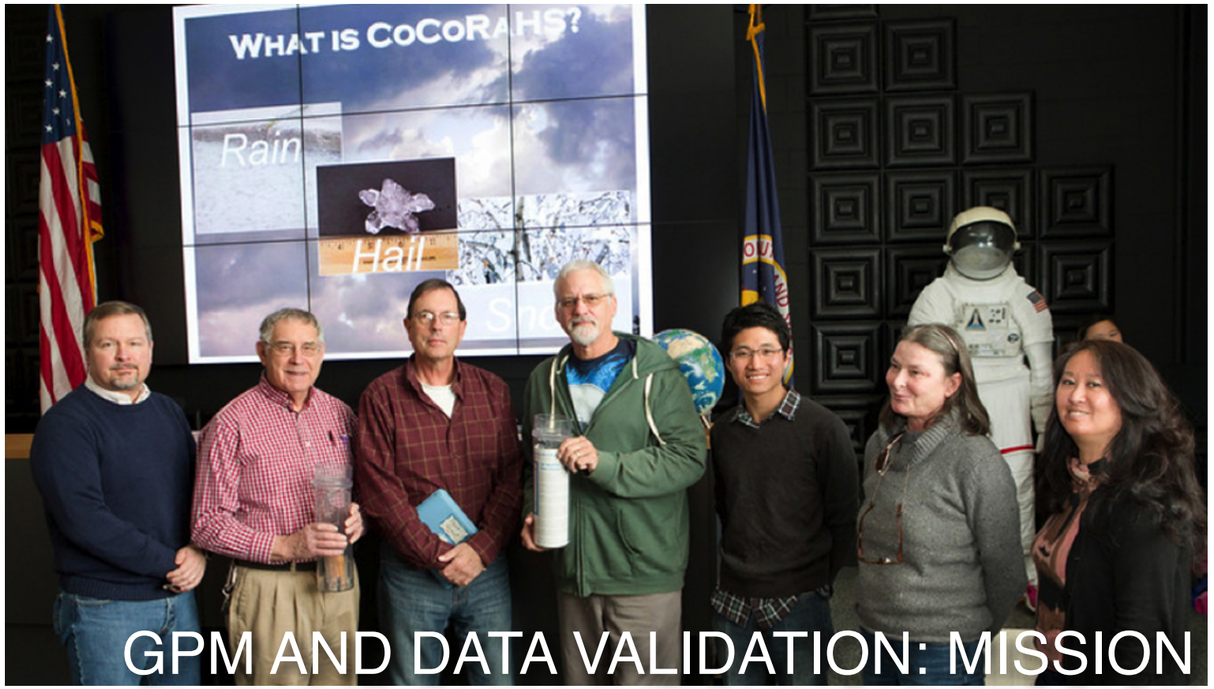
Along with his groundbreaking research, Alcorn has made reaching out to students a priority. He taught physics and electrical engineering at Howard University and the University of the District of Columbia, and he served as a visiting professor at other institutions.

For 17 years, he spent weekends teaching computer science and other subjects at the Saturday Academy, a technology program that he helped start for gifted inner-city students in Washington, D.C. The program has since spread across the country.

Alcorn has also received additional honors from Howard and Government Executive magazine. He retired from NASA in 2012. ■

Center: George Alcorn (left), former Goddard physicist and inventor of the X-ray imaging spectrometer, receives a medal during the National Inventors Hall of Fame's 2015 induction ceremony.

Photo credit: National Inventors Hall of Fame



GPM AND DATA VALIDATION: MISSION TURNS PUBLIC INTO CITIZEN SCIENTISTS

By Kasha Patel

Every morning at 7, Andrew Welch wakes up, cooks breakfast and checks the rain gauge sitting on a 5-foot post in his backyard. He writes down the measurement, sends his kid off to school and then heads to his job as a structural engineer.

Welch is a citizen scientist. Around the world, hundreds of citizen scientists like him are collecting precipitation measurements from the ground that are useful for NASA's Global Precipitation Measurement international satellite mission.

Led by NASA and the Japan Aerospace Exploration Agency, GPM provides rain and snow observations around the globe every three hours. Its data will improve our understanding of water and energy cycles and extreme weather events such as hurricanes, monsoons and droughts.

To produce high-quality precipitation data, scientists need ground measurements to help validate the satellite's observations. To this end, GPM is engaging the public – from schoolchildren to retirees to science fanatics – in its work through citizen science projects.

Validating Precipitation Estimates With CoCoRaHS

Since the beginning of winter, Welch has been participating in a citizen science project called the Community Collaborative Rain, Hail and Snow Network, which provides valuable ground data on rain and snow. CoCoRaHS is a nonprofit, community-based network that strives to measure and map precipitation in all 50 states and parts of Canada.

Participants measure the number of inches of precipitation collected in cylindrical rain gauges during a 24-hour period and submit the data to an online database. Interested parties, including GPM scientists, can access the database for their own applications to see how much precipitation was collected in a particular region.

"CoCoRaHS observers are eyes on the ground," said Tiffany Moisan, research scientist at NASA's Wallops Flight Facility in Wallops Island, Virginia. In January, she started a three-month GPM CoCoRaHS campaign on the Delmarva Peninsula, which consists of most of Delaware and parts of Maryland and Virginia. More than 100 individuals of all ages participated in the Delmarva campaign.

"This project is a simple way to help NASA scientists validate precipitation estimates made using ground and space-based radar instruments and get more data points," Moisan added.

For instance, network participants can help scientists discern the type of precipitation that is falling, whether it is wet snow, light rainfall or a mixture of the two. Scientists can cross-reference the volunteer-supplied reports with satellite data and in the process improve the computer programs used to interpret the data and assign precipitation types.

"The broad coverage of the CoCoRaHS dataset nationwide will be helpful for validating satellite data on large precipitation events such as snowstorms or hurricanes," said Walt Petersen, deputy project scientist for the GPM Ground Validation program, which provides ground and airborne precipitation datasets that support physical validation of satellite-based precipitation data.

His team hopes to make more frequent use of the CoCoRaHS measurements to compare daily accumulated rainfall or the occurrence of snowfall to the estimates produced from GPM satellite data.

GLOBE Enables Learning in the Classroom

GPM also partnered with the Global Learning and Observations to Benefit the Environment program to turn primary and secondary schools into citizen scientist labs. The GPM-GLOBE campaign, which took place from the winter until the spring, taught students how scientists use ground measurements to validate satellite precipitation data.

Every school day at lunchtime, Debbie Lieberman selects a few of her fourth graders to measure the amount of precipitation collected in the class's rain gauge at Glenelg Country School in Ellicott City, Maryland.

"They love it and learn a lot," Lieberman said, who incorporated the GPM-GLOBE program in her lesson plan on weather. "Students have learned what precipitation occurs with particular types of clouds."

Participating students learned how to make observations using a rain gauge, analyze the data for trends, and compare it to other locations around the world and to satellite data. The GPM team also offered webinars for teachers explaining the importance of ground validation.

For the first two months of the campaign, 196 schools — from 20 states and 29 other countries — submitted precipitation data.

"The purpose of the GLOBE data is to educate students about precipitation science and the scientific process," said Kristen Weaver, education specialist and campaign coordinator for GPM at NASA's Goddard Space Flight Center.

"It's been a really great connection from the classroom to what's happening outside," added Lieberman. ■

Above, left: Citizen scientists with the Community Collaborative Rain, Hail and Snow Network stand with GPM scientists Walt Petersen (far left), Jackson Tan (third from right) and Tiffany Moisan (far right). Photo credit: NASA/Jen Campbell

Above, right: Students in Debbie Lieberman's fourth-grade class at Glenelg Country School in Ellicott City, Maryland, measure and document the precipitation collected in a rain gauge as part of the Global Learning and Observations to Benefit the Environment program. Photo credit: Debbie Lieberman

FORMER MISS AMERICA WALKS THE GODDARD RUNWAY

By Katy Mersmann

Growing up as an Indian-American in the Midwest, Nina Davuluri constantly faced questions about her heritage from classmates. She remembered when her mother told her to limit discussion of her background, because some people wouldn't understand.

Fast-forward to 2014 and Davuluri is crowned Miss America as the representative from New York, becoming the first person of South Asian descent to win the competition. She said those memories from her childhood made winning Miss America even more meaningful.

"It ultimately wasn't about me," she said. "It was about being able to reach out to that young girl who I knew was watching Miss America the night I won, and for her to finally say, 'This year, Miss America looks like me.'"

Davuluri visited NASA's Goddard Space Flight Center in May in celebration of Asian-Pacific American Heritage Month. She used the visit, co-sponsored by Goddard's Asian Pacific American Advisory Committee and its Exploring Leadership Colloquia series, to bring attention to two of her platforms: celebrating diversity through cultural competency and promoting fields related to science, technology, engineering and mathematics – or STEM.

Davuluri told her story to a Goddard crowd and fielded questions about cultural understanding, STEM and her own future.

An audience member asked how to better engage minority women in STEM fields, especially during group projects. Davuluri admitted she had struggled with being comfortable speaking out and collaborating in groups. "I come from a very individualistic society, and by that I mean there weren't a lot of group engagement activities that I did when I was younger," she said.

She praised organizations like Girls Who Code, a series of clubs that teach computing skills, for encouraging girls to make themselves heard and engage in STEM fields.

Davuluri also addressed the difficulty of telling her parents she didn't want to go to medical school, deviating from a career path common among many Indian-Americans. She suggested that parents help their children discover their passions and see what careers can come out of their interests. "More than anything, parents need to be encouraging of what their children want to do," Davuluri said. "If you love what you're doing, you will be successful at it."

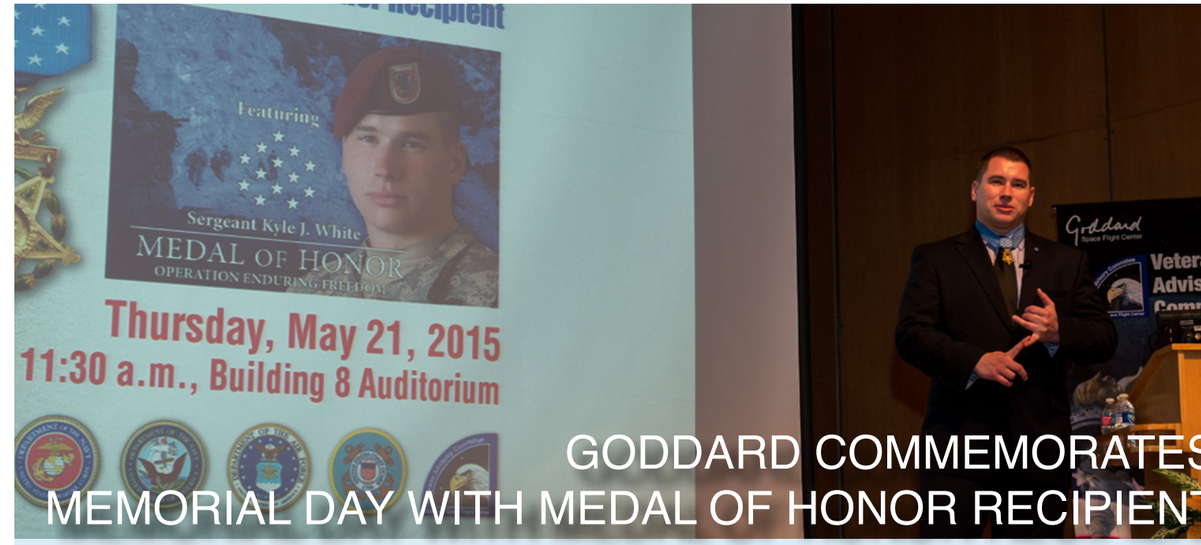
Later in the day, Davuluri toured the Goddard campus with Rich Barney, senior champion for APAAC. Davuluri was interested in seeing how spaceflight hardware is tested as well as how NASA is working to achieve employee diversity. "She was very excited about the tour," Barney said. "She came by herself with her phone, which she constantly gave to us to take pictures of her with different things."

In the transitional period after her yearlong reign as Miss America, Davuluri is getting her life back. This includes picking a graduate school to pursue an advanced degree in international relations. She hopes to one day become the U.S. ambassador to India.

She asked a lot of questions during her tour about NASA's international collaborations and how her work fit in with what the agency is doing. "She has a keen interest in NASA, and she is really an example for how to face challenges and accomplish things," Barney said. ■

Above: Nina Davuluri, the winner of Miss America 2014, poses in front of Goddard's high-capacity centrifuge.

Photo credit: NASA/Goddard/Debora McCallum



GODDARD COMMEMORATES MEMORIAL DAY WITH MEDAL OF HONOR RECIPIENT

By Clare Skelly

With many of the center's own military veterans in attendance, Kyle J. White, a former U.S. Army sergeant and Medal of Honor recipient, spoke at NASA's Goddard Space Flight Center as part of its observance of Memorial Day.

The event, organized by Goddard's Exploring Leadership Colloquia series and its Veterans Advisory Committee, provided a heroic perspective on teamwork and leadership. White, who retired from the Army in 2011, is the first Medal of Honor recipient to speak at the center.

President Barack Obama awarded White the Medal of Honor – the nation's highest military decoration – at a White House ceremony on May 13, 2014. "We pay tribute to a soldier who embodies the courage of his generation," Obama said during the presentation.

Judy Bruner, Goddard's director of safety and mission assurance and senior champion for the Veterans Advisory Committee, introduced White and described his courageous actions while serving in Operation Enduring Freedom in Afghanistan. On Nov. 9, 2007, the then 20-year-old, despite suffering from his own injuries, aided his wounded comrades and radioed situational reports during a three-pronged enemy ambush in the mountainous Nuristan Province.

"Whatever I did that day, it never felt like I was accomplishing anything," White said of his actions. "I was just doing my job." He said he's certain his fellow soldiers would have done the exact same thing if their roles were reversed.

White's takeaways and impressions about teamwork and leadership have translated to his civilian life and corporate job in Charlotte, North Carolina.

He attested to the importance of teamwork in the Army. "You're only as strong as your weakest link," he said. Likewise, the strength of a team can determine success or failure in a work setting, denoting the importance of having a strong team that everyone feels they are a part of, according to White.

He also credits his outlook on leadership to several of the Army's teachings. "It's better to take the hard right than the easy left," he said, encouraging NASA employees to embrace challenges head on as opposed to taking the easy way out.

In addition, he describes a good leader, on the battlefield or in the workplace, as someone whom others find approachable and who is also adaptable to changing situations.

"His message is one we can all try and live up to," Center Director Chris Scolese said during his closing remarks. "It's motivation for how we can do better and perform when things don't go how we expect them to."

While Memorial Day pays tribute to those who lost their lives in service to their country, White said he remembers his fallen comrades every day. He always wears a bracelet inscribed with their names. White refers to them as his heroes.

"I've been given a second chance, while they made the ultimate sacrifice that day," he said. ■

Above: Medal of Honor recipient Kyle J. White recounts his experiences in Afghanistan and shares lessons on teamwork and leadership.

Photo credit: NASA/Goddard/Bill Hrybyk

GCDC GOES GREEN: CENTER OFFICIALLY NAMED A GREEN SCHOOL

By Trena Ferrell

Walk around the NASA Goddard Child Development Center and you'll see young caretakers of the environment at work. Students turn off the lights when they're not in use. They routinely place recyclable items into appropriate bins. During the spring, each classroom plants and tends to its own garden.

Over the past two years, GCDC has engaged in a continuous effort to integrate environmental education and management practices into its curriculum. In addition to posting numerous signs that promote conservation, the school teaches students how to make art out of reusable products and takes them on walking field trips to learn about environmentally responsible transportation.

"We believe that sustainable practices such as recycling, energy conservation and gardening are concepts that even very young children can learn," said Syretha Storey, GCDC director. "They can use their knowledge to influence others to do the same."

In May, GCDC was officially named a Green School by the Maryland Green School Program. Founded in 1999 and administered by the Maryland Association for Environmental and Outdoor Education, the program recognizes schools that demonstrate commitment to the systemic sustainability of the environment, encourage students to lead sustainability practices, and partner with community organizations in conservation-type projects.

"We felt that becoming a Green School would not only reduce our school's environmental footprint, but also help us to shape the habits of our students in ways that will last long after leaving our school," added Storey.

Green Schools benefit from partnerships with MAEOE's Green Centers – facilities honored for efforts in environmental education – and Green Leaders who help make communities more sustainable. The recognition also helps GCDC fulfill the Maryland Department of Education's environmental literacy requirements. ■

Above: Students at the NASA Goddard Child Development Center tend to a native plant garden in the schoolyard. Habitat restoration has become a key component of the school's environmental curriculum.

Photo credit: NASA Goddard Child Development Center

WALLOPS CELEBRATES 70 YEARS WITH OPEN HOUSE

Since its founding in 1945, Wallops Flight Facility has launched rockets and scientific balloons, as well as managed aircraft, in support of science and exploration missions worldwide. In 1981, Wallops became a part of the Goddard family and has since been instrumental in implementing NASA's suborbital research programs. Today, Wallops continues to meet the needs of the agency and the country's aerospace industry.

On Saturday, June 27, Wallops will celebrate the 70th anniversary of its first-ever launch with a free open house event from 10 a.m. to 4 p.m. The day will include flight demonstrations, aircraft displays, special presentations, children's activities, music and entertainment, exhibits from NASA centers, and more. A free 5K run/walk at 8 a.m. will precede the open house. Click here for more information and a schedule of events. ■

EMPLOYEE SPOTLIGHT

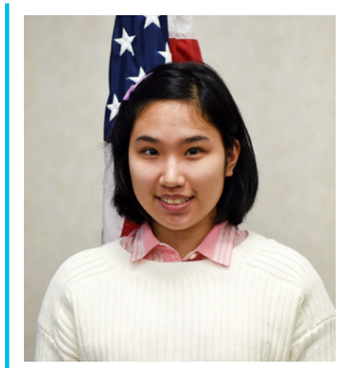
Goddard is pleased to welcome these new employees to the NASA community.

Patrick Ryan

Code 830, Quality Safety Systems Manager

Why Goddard?: Opportunity to be a part of NASA again.

Hobbies/interests: family, woodworking, cycling



Joan Tsai

Code 157.2, Student Trainee (Accounting and Budget)

Why Goddard?: A great challenge and an exciting experience.

Hobbies/interests: swimming, movies, jigsaw puzzles, photography

Rickey L. Siggal Jr.

Code 120, Associate Chief, Equal Opportunity Programs Office

Why Goddard?: NASA is one of our nation's premier federal agencies and the center's mission is one I truly believe in.

Hobbies/interests: good will, collecting old U.S. currency, documentaries

Axel Garcia-Burgos

Code 564, Student Trainee (Engineering)

Why Goddard?: One of my goals is to become a systems engineer/ scientist. Goddard is the best place to start my career toward that goal.

Hobbies/interests: piano, foreign languages, skydiving, traveling

Samantha Kilgore

Code 500, Lead Secretary

Why Goddard?: The culture and working environment are unparalleled.

Hobbies/interests: photography, hiking, boating, motorcycles

Tom Hayes

Code 221, General Engineer - Directorate Planner

Why Goddard?: NASA is the crown jewel of facilities. What engineer wouldn't want to work at NASA?

Hobbies/interests: hiking, backpacking

Margaret H. Samuels

Code 562, Pathways Intern; Parts, Packaging, and Assembly Tech Office

Why Goddard?: People change the world here.

Hobbies/interests: jazz, theatre, science education for girls, baking vegan cupcakes

OUTSIDE GODDARD

By Elizabeth M. Jarrell

Engineering Craft Beer

Scott Glubke, an engineer at NASA's Goddard Space Flight Center, enjoys designing, building and controlling spacecraft. Since the mid-1990s, he has applied many of these same techniques to engineering craft beer during his off-hours.

"When you design and build something for space, you have to follow an engineering process to make sure that what you design will meet your requirements and work in space," said Glubke, chief engineer for the Goddard Mission Engineering Systems and Analysis Division. "Brewing also has a little bit of that formal design and control process."

Glubke enjoys the formality inherent in the process of making beer. The challenge for him is controlling flavor by developing and following his own recipes.

He is an extract brewer. He uses a combination of processed malt and other raw ingredients, such as specialty grains and hops, giving him enough flexibility to adjust the resulting beer, yet requiring less time and equipment than if he used all the raw ingredients. He especially likes "hoppy beer," a type of beer which he has individualized by using the characteristics of the hops to adjust the bitterness, flavor and aroma.

On brew day, it takes Glubke about four hours to brew from start to finish. After brewing, he puts the wort, or unfermented beer, in a primary fermenter, a big container with an air lock, for about 5 to 7 days. He then moves the beer to a secondary container for about 2 to 6 weeks to allow the yeast and other particulates to settle at the bottom, clarifying the beer.

Glubke uses both bottles and kegs to complete the carbonation process. For bottled beer, he ages the beer in the bottle for about 1 to 3 months, depending on the style. For kegs, he only ages the beer for about a week because the forced carbonation speeds up the process.

"I have a bar at home with up to two of my own beers on tap," said Glubke. "It's great for entertaining and sharing the results of my hard work."

Many years ago, as part of a special gift for a friend, Glubke began developing his own unique recipes. With the help of a very creative friend, Glubke created the Rocket Science Brewing Company. The two developed a special beer recipe and unique label for the birth of his friend's first child. The label included the baby's name and birthdate.

When Glubke got married, he crafted two new beer recipes and his friend designed labels, which Glubke and his new wife offered as wedding favors. Glubke and his friend have also created new recipes and labels for the birth of both of Glubke's two sons and, most recently, for his father-in-law's 70th birthday.

"Individualizing a new beer and label is fun," said Glubke. "If I have a special occasion, I'll make a special beer and a special label."

Ten years ago, Glubke started Goddard's home brew beer club, which currently has about 60 members – a mix of brewers and those who just appreciate good craft beer. The club also offers classes and hosts the home brew and crab feast every fall.

"We're called the Zymurnauts," said Glubke. "I merged 'zymurgy,' the study of fermentation, with 'astronauts' and came up with 'Zymurnauts.'"

"Some people make cookies to share with other people," added Glubke. "I like to make unique craft beer for other people using my own recipes and hope they say that it is really good." ■

Center: Scott Glubke serves up his own craft beer at his home bar.

Photo credit: Scott Glubke