

STEM CAN TAKE YOU...

**FESTIVAL
EXPO**
APRIL 7 & 8, 2018

PRESENTED BY
LOCKHEED MARTIN

USASCIENCEFESTIVAL.ORG

**FREE EXPO: WALTER E. WASHINGTON CONVENTION CENTER
WASHINGTON, D.C. - APRIL 7 & 8, 2018**

ABOUT THIS SECTION: This special advertising section was produced by The Washington Post Custom Content Department and written by freelance writer Margaret Rankin and did not involve The Washington Post news or editorial staff. FOR MORE INFORMATION, PLEASE CONTACT: Raymond Boyer, at 202.334.4174

FIND OUT WHERE *STEM* CAN TAKE YOU AT THE USA SCIENCE & ENGINEERING FESTIVAL!



The USA Science & Engineering Festival is the nation's largest celebration of science, technology, engineering and mathematics (STEM)! Join us this weekend at the Walter E. Washington Convention Center for this free event for all ages - designed to be the most compelling, exciting and educational festival in the world!

USA SCIENCE & ENGINEERING FESTIVAL EXPO

PRESENTED BY LOCKHEED MARTIN

Free event for all ages
Saturday, April 7, 10-6
Sunday, April 8, 10-4

Check our website to learn
about the special Sneak Peek
for kids on Friday.

Registration is required for all events.
[Visit usasciencefestival.org](http://usasciencefestival.org) to register.



At the Expo, *STEM* CAN TAKE YOU...

INTO THE DEEP BLUE - Learn about ocean conservation with NOAA and explore the Big Blue & You exhibit with Festival Spokesperson Danni Washington.

INTO THE WORLD OF CODING - Test out your coding skills with Black Girls Code and Schlumberger, plus see your coding in action with Robolink!

INTO OUTER SPACE - Visit the Space Pavilion and learn about the latest advancements in space travel and the potential for life on Mars with NASA, SpaceX, CASIS, Space Camp and more!

INTO HIGH-TECH ENGINEERING - Explore the science of sound with Bose Build, discover how engineering is improving health with VCU Engineering, visit the MIT Society of Women Engineers booth, and more!

INTO THE FIELD OF MEDICINE - Learn about DNA with 23andme, experience

the life of a doctor with Boston Scientific, learn about the brain with Backyard Brains, the science of sleep with ResMed, discover the latest in medical research with the NIH and more.

INTO NATURE - Discover our beautiful world with the Carnegie Institution for Science, learn why the red rock arches of southern Utah are constantly vibrating with the University of Utah, visit the animal discovery booth at the National Science Foundation Pavilion and more.

INTO THE CLOUDS - Take a ride on the Rapid Strike flight simulator that immerses visitors into the high-tech world of the U.S. Air Force and get your picture taken in the cockpit of a F16 Fighter Jet!

INTO VIRTUAL SPACE - At the Lockheed Martin Pavilion, check out the Mars Base Camp Virtual Reality experience as you learn what life on Mars would be like!











SOCIAL MEDIA FUN!

Check out our life-size
STEM CAN TAKE YOU
images and share
#SciFest selfies!

Tag us at @USAScienceFest
and use our
#SciFest hashtag!



STAGE PERFORMANCE SCHEDULE - SAT 4/7 & SUN 4/8

STAGE →	EINSTEIN HALL E (2nd Level)	CURIE HALL C (Lower Level)	STAGE →	EINSTEIN HALL E (2nd Level)	CURIE HALL C (Lower Level)
SATURDAY	11:00am - 11:20am Hands-on, High-Energy Science from TV's QV Sci Host - Steve Spangler 	10:30am - 10:50am Get Ready to Raise the Roof about STEM - Science Cheerleaders 	SUNDAY	11:00am - 11:40am Journey to NASA - Jessica Mair 	11:00am - 11:20am Are you Ready for a Science Showdown? - Franklin Institute
	12:00pm - 1:00pm Science is FUN - 3M Visiting Wizards 	11:00am - 11:30am Science Communication #SciComm - Danni Washington 		12:30pm - 1:20pm The 'Coolest' Show Around! Exploring Cryogenics with Mr. Freeze - Mr. Freeze	12:00pm - 12:30pm Get Ready to Raise the Roof about STEM - Science Cheerleaders
	1:30pm - 2:30pm International Space Station - CASIS	12:00pm - 12:50pm Stunt Science: Behind the Scenes of Spider-Man and Other Hollywood Movies - Steve Wolf 		1:50pm - 2:40pm Changing Education with Wonder - Jason Ladner	1:30pm - 1:40pm Explosive Science - Dr. Kate Elberfeld
	2:00pm - 2:40pm Girls in STEM - Abbott	1:30pm - 2:30pm High Energy STEM 'Edu-tainment' - Daryl Lee Baynes		3:00pm - 4:00pm Science is FUN - 3M Visiting Wizards	
	4:00pm - 4:40pm Explosive Science - Dr. Kate Elberfeld 	3:00pm - 3:50pm Turning Math Into Magic - Mathematics Art Benjamin 			
	5:00pm - 5:50pm Rocking the World of STEM Education Through Hip-Hop and Science Exploration - Grand Hawk 	4:10pm - 4:50pm Science in Fire! Using Real World Fire Forensics to Transform Learning - U. XPLORES			2:00pm - 2:40pm Stories of the Deep Blue - Danni Washington
		5:00pm - 5:30pm USDA Takes Flight: Woody Owl, Drones & More! - USDA 			

STEM CAN TAKE YOU...

PHOTO BY BRIAN SKERRY

INTO THE DEEP BLUE



FESTIVAL WOMEN IN STEM – HERE TO INSPIRE!

Women who excel in STEM fields are gaining recognition every day, and their achievements will be highlighted in every booth, at every pavilion, and on every stage here at the USA Science & Engineering Festival. We caught up before the Festival with our spokesperson Danni Washington and a selection of the Festival's outstanding women in STEM to ask them about their inspirations, their motivations, and what they hope to do for today's generation of girls who may become tomorrow's STEM all stars.

SPOKESPERSON DANNI WASHINGTON

Danni Washington is a TV Host, Science Communicator, Ocean Explorer, Mocha Mermaid and World Traveler – a natural choice for this year's Festival spokesperson!

What inspired you to become the spokesperson for this year's Festival?

I'm most inspired by the thousands of young people coming to experience learning opportunities in STEM and expand their knowledge about the world. **When I attended the Festival**

in 2016, I was impressed by the sheer number of people attending and the buzz of excitement flowing throughout the Expo. It made me wish I could be a kid again and see the Festival through their eyes.

Why is it important to you to be a science communicator?

It's important because representation matters. As the first African-American woman to host her own science television show, I think about the millions of young girls who might be thinking about pursuing a career in

PHOTO CREDIT MICHAEL COLELLA FOR THE USA SCIENCE & ENGINEERING FESTIVAL



Follow Danni at @danniwashington

TUNE INTO THE FESTIVAL'S SOCIAL MEDIA CHANNELS -

Facebook:

facebook.com/usasciencefestival

Instagram:

@USAScienceFest

Twitter:

@USAScienceFest, #SciFest - as Danni will be broadcasting live from the Festival Media Zone and will also take viewers on a behind the scenes tour in the days leading up to the Festival.

Danni will be on stage on Saturday from 11-11:30 a.m. on Stage C, Danni also tells *Stories of the Deep Blue* from 2-2:30 on Sunday on Stage C.



USASEF Spokesperson Danni Washington swims with a whale shark.

STEM and simply need to connect with role models that look like them to believe that it's possible.

As we face challenges like climate change and ocean pollution, it's important that there is a real connection and line of communication between the general public and the science community. Sometimes, there seems to be a disconnect between the two and not enough conversation about what scientists are discovering today. When we have those conversations between the general public and the science community, that's when change will happen. As a science communicator, I can be the catalyst that can help make that change for the better. Plus, it's a lot of FUN being a science communicator!

"At Abbott, women play an integral role in creating life-changing technologies. Our top engineer Corlis Murray and neuroscientist Beth McQuiston can't wait to share their stories into STEM at our 'Changing the Belle Curve' Expo stage show."

Abbott, Festival Sponsor

SEE GIANT HAMMERHEADS AND TIGER SHARKS with Steer Digital's VR Experience



Underwater Cinematographer Carlos Toro with a Tiger Shark, filming for the Discovery Channel's *Tiger Beach*.

Steer Digital is a creative digital agency providing film, web development, design and virtual reality expertise to companies and organizations that seek to improve the world. Founder, Carlos Toro, has led his team on several projects with National Geographic and Discovery Channel. Most recently, he directed and produced *Shark Vortex*, for Discovery Channel's Shark Week.

As a lead media partner and video producer for the USA Science &

Engineering Festival, Steer Digital will host a booth at the Expo, providing attendees the opportunity to film a short segment focusing on where they believe STEM can take them. **Steer Digital will also provide a Tiger Shark/Hammerhead VR experience for attendees, where attendees will be able to virtually visit two dive sites in the Bahamas that feature both the powerful Tiger shark and the cautious and impressionable Giant Hammerhead.**

SETTING THE WORLD ON FIRE AND BLOWING THINGS UP:

Explosive Dr. B Breaks Stereotypes



As a high school student in Kalamazoo, MI, Kate Biberdorf had an "amazing" chemistry teacher.

"She ran around the room and lit things on fire; she was passionate, engaging, and an inspiring teacher," she says. **"I fell in love with chemistry in her classroom and never looked back. Ever since I was 15, I knew I wanted to be a chemist."**

Kate realized her dream when she earned her PhD in Inorganic Chemistry at The University of Texas at Austin in 2014. She's still there today, and now known as "Dr. B" – both a Lecturer and the Director of Demonstrations and Outreach who is famous for blowing things up.

Dr. B's explosions are very popular with students, but as one of few women among her scientific peers, there have been challenges along the way.

"I am constantly judged on my appearance," she says. "I wear high heels and pencil skirts, which can encourage some people to put me into a particular category. It is very important for me to show my students a different version of a chemist. It does not matter who you are, where you are from, what you look like or who you love – ANYONE can be a scientist."

Dr. B's stage show takes place from 4-4:30 p.m. on Saturday on Stage E from 1-1:30 p.m. on Sunday on Stage C!

CAN THE WORLD'S CORAL BE SAVED?

A Q&A with NOAA's Dr. Mark Eakin



Dr. Mark Eakin runs NOAA's Coral Reef Watch

Dr. Mark Eakin, who runs NOAA's Coral Reef Watch, is one of the scientists and divers who worked on the *Chasing Coral* Netflix documentary that followed a team of divers, scientists and photographers as they documented the "bleaching" of coral around the world. Dr. Eakin will be manning the NOAA booth at this year's USA Science & Engineering Festival and participating in the X-STEM Symposium in a sold-out speaking engagement.

What is the situation now with coral bleaching?

"One thing that is interesting is that the film doesn't capture the full extent of the bleaching during this most recent bleaching event. Bleaching took place from June of 2014 until May of 2017 – a three-year event that is unlike anything

we've seen before. Not only are these bleachings occurring much more rapidly now, but they're getting bigger and they're lasting longer."

Why should kids be interested in this phenomenon?

"Coral reefs cover only one tenth of one percent of the ocean's bottom, but they are home to more than a quarter of all marine species. At least half a billion people rely on them and they are being destroyed in our lifetimes due to our actions. This is something that kids need to realize – they need to know the kind of world that they're inheriting from us, and the impact that climate change is having."

To learn more, go visit Mark and his team at booth S837, where he'll be putting on a "Science on a Sphere" demonstration on Sunday.

STEM CAN TAKE YOU...

INTO NATURE



NATIONAL SCIENCE FOUNDATION: Where Discoveries Begin



Kids play in an "augmented reality sandbox" that lets them see how the flow of water changes as they move sand around with their hands.

The National Science Foundation (NSF) has participated in the Festival each time since it began in 2010, and this year the focus is on fun, interactive exhibits, says the NSF's Shaena Montanari.

This year, the NSF's 22 exhibits include air quality sensors built from Legos, Foldscopes – paper microscopes that kids can take anywhere, and a polar exhibit centered on scientific exploration in Antarctica.

At the LIGO exhibit, NSF and NANOGrav encourage you to explore gravitational waves, the ripples in space and time produced by some of the most violent events in the cosmos: colliding black holes, exploding stars, even the Big Bang itself. Their discovery in 2015 by the twin

detectors of LIGO, the most sensitive scientific instruments ever built, was awarded the 2017 Nobel Prize for Physics. Over at the 3D printing station, Festival-goers can print food and living materials, while a computer science exhibit provides headsets that enable participants to control objects on screen and even play instruments using just their brain waves.

"What we hope to do is to excite the next generation of kids to be scientists," says Susan Mason from NSF.

"Yes," agrees Shaena, "there's a little something for every kind of kid. There will be all kinds of different researchers from all walks of life, and we want kids to say, 'hey, that's sort of like me. I can do science, too!'"

HONDA: Committed to Encouraging the Growth of STEM Education



Honda's ASIMO robot is a hit with youngsters around the world! Here it performs for students in Ontario, Canada

Honda is proud to share its robotics technologies with attendees of the USA Science & Engineering Festival through live demonstrations during the three-day event.

From the earliest days of the company, Honda has valued those who reach for the unknown. Those who see things for what they are, and then have the passion to change them. Honda calls this "The Power of Dreams."

Honda has a deep commitment to encouraging the growth of STEM education among young students, with the goal of helping current and future generations gain the knowledge and abilities necessary to make a difference in society.

Dreams are the genesis of change, but Honda believes that STEM education is essential in allowing people to take that next step. To turn those dreams into reality, ASIMO, Honda's advanced humanoid robot, and the innovative personal mobility device UNI-CUB, are examples of what can be accomplished when one person's education is matched by their passion.

These unique Honda Robotics demonstrations at the Festival Expo will show students the practical uses of many of the concepts that they are learning about in their courses of study.

"We see great value in sharing our unique Honda Robotics technologies with students as an opportunity to demonstrate how we are applying STEM education to create new value for society," said Jeffrey Smith, Vice President, Honda North America, Inc. "Showing young people how we are pursuing new dreams to help people and society can inspire and motivate their own dreams."

"This is a great time to be a STEM influencer. Passionate people from every industry come to the USA Science & Engineering Festival sharing the most creative ideas for getting young minds excited about STEM inspired careers."

Steve Spangler, Festival Performer and TV's DIY Sci Host



"The Festival is a phenomenal culmination of inquiry, exploration, and collaboration packed with experiential hands-on STEM activities. I am proud to be part of the STEM journey as a Festival volunteer and STEM coach!"

Padmini Nidumolu, Festival Lead Volunteer



"STEM can take you into the environment. At the USA Science & Engineering Festival, EPA is hosting 31 universities to showcase their designs on how they're using STEM to move toward a sustainable future that benefits people, promotes prosperity, and protects the planet. Projects include recovering nutrients from urine to using beetle larvae as digesters for biodegradable materials, just to name a few!"

EPA, Festival Exhibitor

DR. KNATOKIE FORD: My Story is One of a Person Who Left STEM and Came Back

Dr. Knatokie Ford earned her PhD in Experimental Pathology at Harvard. She served as a Senior Policy Advisor in the Obama White House Office of Science and Technology Policy. While there, she designed and ran the successful Image of STEM project, which uses entertainment media to improve public perception of STEM in order to help promote diversity in the workforce.

Confident, outspoken and vivacious, Dr. Ford is also transparent about her journey to overcome impostor syndrome, which she grappled with as a graduate student at Harvard. She recounts, "I often wondered, 'hey, maybe I'm not that smart after all. Maybe Harvard made a mistake, and what if somebody finds out I don't deserve to be here?'"

After her first semester, Dr. Ford took a leave from Harvard and went to Hollywood to pursue acting. However, she found

herself teaching, which was a transformative experience.

"Working with those students, I realized something," she says. "If not 'feeling smart' could be so significant for me as an adult with a track record of success, how damaging could those feelings be to a 7th grader?"

Her time as an educator unearthed a passion for youth empowerment, which prompted her to return to Harvard with a new perspective that propelled her to complete her PhD. Dr. Ford has a message for young students in the audience at her upcoming X-STEM talk:

"It's so important to not be afraid to fail," she says. "The moment you get over this feeling of failing is the moment you open yourself up to trying new things. You get opportunities you would never have if you're always taking the safe route. Embrace your successes and don't compare yourself to other people, that's something I wish I had known when I was 12."



Knatokie Ford at the GirlsBuildLA event with 10,000 girls that Hillary Clinton keynoted in December.

The X-STEM Symposium, sponsored by PwC, NBC4 & NCR, is a special SOLD OUT event of the USA Science & Engineering Festival.

CHEVRON SPONSORS SNEAK PEEK FRIDAY ON APRIL 6, PARTNERS WITH TECHBRIDGE GIRLS



Chevron is proud to support Techbridge Girls to empower the next generation of female innovators and leaders.

Teachers and parents: Spark your children's scientific curiosity and take them on the ultimate field trip to the USA Science & Engineering Festival's Sneak Peek Friday from 9 a.m. to 3 p.m. on Friday, April 6. That's when kids can experience the Expo before the general public at the Washington, D.C. Convention Center. Sponsored by Chevron, Sneak Peek Friday is open only to schools, homeschoolers, and military families. Experience the wonder of STEM with more than 3,000 hands-on activities hosted by sponsors and exhibitors consisting of organizations, government agencies, non-profits, universities and school clubs.

This year, Chevron is partnering with Techbridge Girls, who will be featured in the Chevron STEM Zone during the Festival Expo. For over a decade, Techbridge has been sparking the curiosity of girls to pursue a career in science, technology, engineering and math. They explore engineering and science by making circuits,

designing prototypes of buildings, working with mentors, and much more through Techbridge Girls' extracurricular programs and family resources.

Recognizing there is no one-size fits all approach to inspiring diverse girls in STEM, organizations like Techbridge Girls are uniquely positioned and effective at reducing STEM opportunity and achievement gaps. The organization gives them access to the hands-on learning and real-world exposure they need to pursue their dreams and careers. They also work with families, role models, school districts and partners to provide the guidance they need to support girls and set them on the path to success. Central to the organization's work is its belief that every girl has the power to change the world.

Be sure to stop by the Chevron STEM Zone to see the Techbridge Girls exhibit and meet the leaders of the organization.

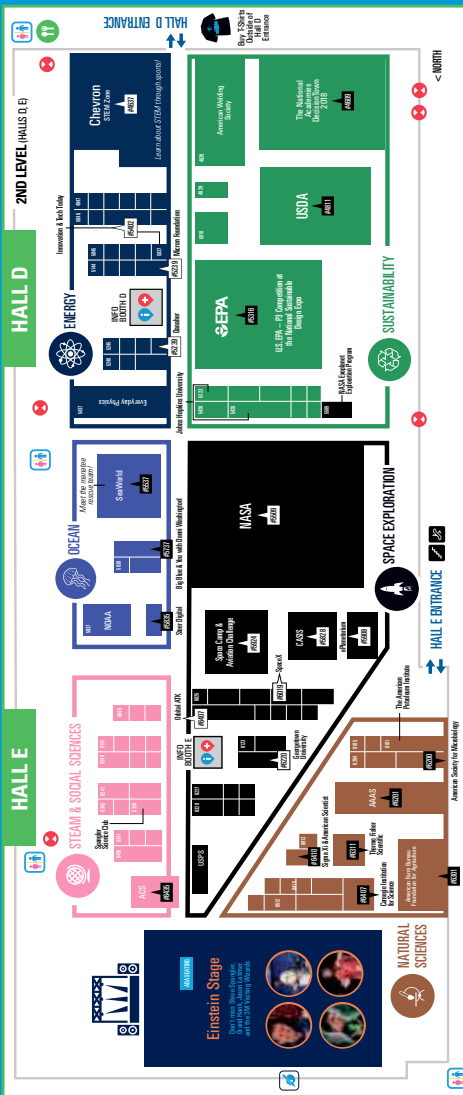
www.chevron.com/education

SNEAK PEEK
FRIDAY
APRIL 6, 2018



FRIDAY, APRIL 6
9am - 3pm DC Convention Center
Open only to schools, homeschoolers, and military families.

2018 EXPO MAP



SUNDAY	
11:00am - 12:00pm	U.S. Department of Agriculture (USDA)
12:00pm - 12:50pm	U.S. Department of Justice (DOJ)
1:00pm - 1:50pm	U.S. Department of State
2:00pm - 2:50pm	American Association for the Advancement of Science (AAAS)
3:00pm - 3:50pm	American Society of Microbiology (ASM)

AND... meet the
SCIENTIST & ENGINEER

MAP AS OF 3/19/18. SUBJECT TO CHANGE. PLEASE VISIT USSCIENCEFESTIVAL.ORG FOR THE MOST UP-TO-DATE INFORMATION AND SCHEDULES.

Explore 3,000 Hands-on Activities

Join us at the 5th USA Science & Engineering Festival where we'll take you on an exploration of everything STEM from the deep blue to outer space. See all the amazing places a life in STEM can take you at our fun-filled and educational interactive pavilions.



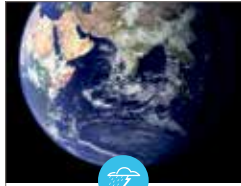
Aviation

Ready, set, take off! Learn how planes fly, how aircrafts are made and the physics behind it all.



Career

Colleges, Universities, and STEM organizations will inspire kids to pursue an exciting career in STEM.



Earth Sciences

Earth uncovered from extreme weather and earthquakes to the atmosphere and beyond.



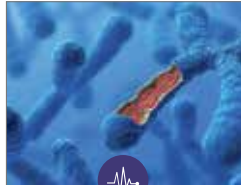
Energy

Explore the Chevron STEM zone and learn about STEM through sports.



Engineering & High Tech

Robots, high tech computing, and cutting-edge engineering.



Health & Medicine

Secret electricity living under your skin, medical mysteries solved and the science of soap.



Kids

A fun introduction to STEM for kids under 7, plus amazing kid-friendly hands-on exhibits!



Lockheed Martin Rad Labs

This Science Isn't Fiction: Step inside the world of incredible real-life science with Expo Sponsor Lockheed Martin.



Makerspace

Explore robots and more at the Makerspace, presented by Stanley Black & Decker.



Math & Computer Science

You won't believe how fun math and coding can be until you've explored it here.



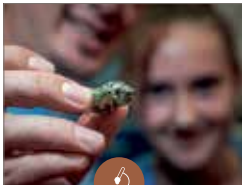
National Science Foundation

Where Discoveries Begin: 26 incredible hands-on exhibits to inspire kids in all aspects of science.



National Security

Explore STEM inside the DoD, Army, Airforce, Navy and Marine Corp and learn how they protect our country.



Natural Sciences

Plant Biology, agriculture, our 'Microbial Friendlies', and more!



Ocean

Learn all things ocean from marine life to conservation and meet Festival host, Danni Washington.



Space Exploration

NASA and SpaceX will take you on a wild ride through the new frontier.



STEAM & Social Sciences

See how the decisions you make every day are influenced by science, engineering, and medicine.



Sustainability

Learn about sustainability in order to keep our biological systems diverse and productive.

6 DON'T MISS ACTIVITIES

1

Climb on board the famous F-35 fighter jet at the Lockheed Martin Pavilion.

2

Meet ASIMO, Honda's humanoid robot. See it walk, run, and climb stairs with human-like fluidity.

3

Explore the relationship between art, design, and technology with Deloitte.

4

Check out the animal rescue boat and learn about manatee rescues with SeaWorld!

5

Enter carnival style interactive trailers and discover the latest research at the Oak Ridge National Laboratory.

6

Enter the FIRE LAB: Forensic Science for Young Explorers with UL XPLORELABS.

STEM CAN TAKE YOU...

INTO OUTER SPACE



DoD: Hands-On Activities with STEM Professionals and Mentors



This year, at the DoD Pavilion, the audience will have the opportunity to interact with STEM professionals and mentors within the DoD through a variety of activities including a "Ray Optics Laser System" demonstration. **This demo will show students a model of the human eye, how a camera works, two types of telescopes, and concepts of spherical aberration, refraction and reflection.** In addition, we will have drone cages for flight demonstrations. These hands-on activities, speaking engagements ("Lightning Talks"), and videos will help

capture the experiences of DoD scientists and engineers and the significant impact of meeting technological challenges within the Department. These engagements will help inspire and encourage children that each of them has the potential and capabilities to become a part of a life-impacting career in STEM. DoD would like to impress upon students that careers in STEM can be exciting, life-changing, and rewarding. There are many careers that support the Department in capacities such as computer sciences and information technology, mathematics, social sciences, health, and more!

NASA ASTRONAUT JESSICA MEIR SHARES HER JOURNEY TO NASA ON THE EXPO STAGE



As the saying goes: You are what you dream. This seems to be the ideal case for Dr. Jessica Meir in fulfilling her lifelong dream of becoming an astronaut. Born and raised in the small town of Caribou, Maine, Jessica remembers being 5 years old when her teacher asked her to draw a picture of what she wanted to be when she grew up. The image she drew, of an astronaut in space, turned out to be close to what her life is shaping up to be now. **"STEM has taken me on an incredible journey, from plunging beneath sea-level into Antarctic waters to SCUBA dive and study emperor penguins, to elephant seal colonies on the beaches of California, field camps on the remote Mongolian steppe, and finally to my present career training for a mission to the International Space Station as a NASA astronaut," she says.** Jessica Meir will be on the Expo Stage from 11-11:30 a.m. on Sunday on Stage E!

Building a better working world at EY



"Alan," EY's mini bot that will be featured in their Festival Expo booth, at the 2018 Mobile World Congress in Barcelona.

At EY, we are committed to building a better working world. It is a world in the midst of unprecedented change: political, demographic, geographic and technology. Entire industries are being disrupted, creating uncertainty for our people and the world at large. The reality is no one can predict the future of work. But disruption also creates opportunity. At EY, we're embracing change, preparing our people for the unknown future by equipping them with the mindsets to leverage disruption to their advantage. We're also embracing technologies to reduce mundane, repetitive tasks so our people can focus on more meaningful and fulfilling work.

**STEM
CAREER FAIR**

Presented by
EY
Building a better
working world

FRIDAY, APRIL 6
3pm - 8pm • DC Convention Center
Connecting organizations with college & grad students for potential employment.

USA SCIENCE & ENGINEERING FESTIVAL EXPO SPONSOR LOCKHEED MARTIN SHOWCASES INNOVATION AND TECHNOLOGY



The demonstrations presented at the USA Science & Engineering Festival represent a small portion of the programs at Lockheed Martin but they showcase the depth and breadth of the talent and ingenuity that we bring to our customers. While it looks like it could be ripped from the scenes of a movie or TV show, **THIS SCIENCE ISN'T FICTION!** The centerpiece of our exhibit is the **Career Predictor** – located at the base of our video tower, it just might help you find what STEM career suits you best. Once you know, talk with Lockheed Martin employees from each of these STEM careers about their working experience in the field. Our exhibit is based on the idea that if we can't take you to our labs then we will create them for you, showcasing exactly the technologies we use in our own labs! Within our **Rad LABS** exhibit you can visit three areas: the Flight Lab, Orbit Lab and Robo Lab.

Flight Lab:

- Fly a full-scale RAIDER helicopter simulator.
- Climb on board our famous F-35 fighter jet and learn how to build a plane in our virtual reality hangar.
- Marvel at a scale model of our unequaled Hybrid Airship and learn about buoyancy, lift and force.

Orbit Lab:

- Go to Mars on our world-renowned group VR Mars Bus and check out the Mars Base Camp VR experience where you will learn how to live in space. See the robot rover, the rocks and craters around you, and find out what it's like to live on the surface of Mars!
- Learn about the Orion capsule from a scale model and see how it will enable extended space travel for you and me.
- Explore the connection between weather

prediction and our GOES-R satellite. These satellites are based on Lockheed Martin's famed A2100 bus which has seen hundreds of years of combined on-orbit operations. Lockheed Martin has a more than 50-year history of designing and building weather and environmental spacecraft and instruments dating back to TIROS 1 in 1960, the world's first weather satellite. The company has built and launched just over 100 weather and environmental spacecraft for our government's civil and military agencies.

Robo Lab:

- Control a robot rover and help save the day in a simulated disaster zone.
- Wonder at the feats of wearable robots! See how we are pioneering the future of exoskeleton technology.
- Discover the world of unmanned vehicles at our interactive display and demo.

**FESTIVAL
EXPO**
APRIL 7 & 8, 2018

PRESENTED BY
LOCKHEED MARTIN

SATURDAY, APRIL 7
10am - 6pm • DC Convention Center

SUNDAY, APRIL 8
10am - 4pm • DC Convention Center

3,000 hands-on activities! Free and open to the public.

REGISTER AT USASCIENCEFESTIVAL.ORG

WHAT'S NASA UP TO?

We are looking to transform aviation, working in low Earth orbit, developing technologies critical to sending humans farther out in space than ever before and continuing to explore the solar system and beyond. NASA is delighted to be back at the USA Science & Engineering Festival to share our excitement about what we are working on. Come by Booth #5509 in the Space Pavilion and let the NASA scientists, engineers, and other staff share the ways we are working to inspire the next generation and improve life on Earth.



NASA exhibits at the 2014 Festival

"At Lockheed Martin, our workforce has always been the ultimate driver of our leadership and success. That's why we are investing heavily on a number of fronts to grow our pipeline of talent in the areas of science, technology, engineering, and math... In 2017, Lockheed Martin provided almost \$12 million in grants to organizations that promote STEM opportunities for young people. Our employees supplemented our monetary contributions by volunteering more than 115,000 hours to participate in STEM activities." **Marilyn Hewson, Chair, President and CEO, Lockheed Martin**

HER EXCITEMENT SHINES THROUGH: Emily Calandrelli Shares Her Passion for Science



Science TV Host and Astronautics Expert Emily Calandrelli

MIT graduate and astronautics expert Emily Calandrelli is a correspondent on Netflix's *Bill Nye Saves the World* and executive producer and host of FOX's *Xplore Outer Space*. She has written about the space industry for TechCrunch, and recently released the first novel in her children's chapter-book series *The Ada Lace Adventures*. She is wildly passionate about bringing science literacy and the excitement of space exploration to kids and the general public. "I don't remember any women in science and tech who I could look up to when I was a younger, and when you don't know what you want to be when you grow up, it's harder to feel that all options are open to you if you've never seen anyone like you in that field," she says. **"When I talk to younger kids about my career I think it's beneficial for them to see someone like myself talking about science and tech - I may be the first woman they've seen in their class with a career in STEM, and that helps change their perception of what it means to be a scientist or engineer."** Emily will be participating as an X-STEM speaker in the sold out X-STEM Symposium on Thursday, April 5th.



"The USA Science & Engineering Festival is a celebration of STEM like no other. CASIS is proud to support the Festival and to bring the inspiration and wonder of the International Space Station to the hundreds of thousands of students, parents and teachers that attend this phenomenal event."

CASIS, Festival Sponsor

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CELEBRATE AND EXPLORE SCIENCE with the National Institutes of Health!



Mock Biohazard Lab: NIH Pavilion visitors suit up with protective gear before entering the mock biohazard lab to view pathogens under a microscope.

The National Institutes of Health will host a 6,550-square-foot exhibit in the Health and Medicine Pavilion, staffed with representatives from 21 of NIH's 27 institutes, centers and offices.

Engage in a variety of hands-on activities focusing on health, biomedical and behavioral science topics. Learn about seasonal and pandemic influenza and how researchers are working to combat the virus. Isolate DNA with household products, move through a virtual operating room to learn about the surgery of the future. Visit a mock lab, wear protective equipment, and experience directional airflow, just like NIH researchers. Measure your lung capacity, and test your knowledge of regenerative medicine and biomedical imaging.

Drop in on explorations of topics including the brain, and how it works; eye anatomy, and visual processing; or opt for other subjects including noise-induced hearing loss prevention; alcohol use disorder; tissue engineering, biomedical imaging, and brain-computer interfacing; medical applications and genetics, immunology, and autoimmunity. There's something for everyone!

USDA: BUILDING A SUSTAINABLE FUTURE WITH STEM



USDA on Expo Stage

At the U.S. Department of Agriculture (USDA), we're more than just the grade mark on your steak. We are leaders in research, science, and technology across America, and we're proud to be a sponsor of the USA Science & Engineering Festival.

At our booth at the USA Science & Engineering Festival, you can learn how USDA is producing the cutting-edge science and technology needed to meet the challenges of food security and safety, nutrition, and building the bio economy - all in a sustainable way.

We're doing it through grants and partnerships at land-grant colleges and universities, and through long-term studies at USDA laboratories across the country.

"Our nation's future relies on encouraging more kids to go into STEM careers. By hosting the nation's largest science festival, we are hoping to capture their imaginations by introducing them to STEM innovators and engaging them in real hands-on projects to illustrate that STEM can really take them anywhere they want to go."

Marc Schulman,
Festival Executive Director



PHOTO CREDIT MICHAEL COLELLA FOR THE USA SCIENCE & ENGINEERING FESTIVAL

SCIENCE LASER SPECTACULAR Prismatic Magic and SPIE Laser Programs



Prismatic Magic harnesses the captivating power of laser light to create a revolutionary learning environment that intertwines elements of science, technology, art, and music.

The Prismatic Magic Science Laser Spectacular is sponsored by SPIE, an international society advancing an interdisciplinary approach to the science and application of light. It's a light and laser show designed to dazzle and inspire students of all ages, showing the wonder and opportunities in optics and photonics – the science of light.

Performances start on Saturday and are every 30 minutes beginning at 10 a.m. in Salon C by the Mount Vernon Entrance.

PHOTO CREDIT SPIE

JOIN STANLEY BLACK & DECKER IN THE MAKERSPACE PAVILION! Bring your creativity and innovative thinking to the Stanley Black & Decker Makerspace booth where you'll be put to the challenge.



Stanley Black & Decker Makerspace

"Stanley Black & Decker is proud to support the U.S. Science & Engineering Festival, encouraging youth to explore the potential of STEM," said Tim Perra, Vice President of Public Affairs for Stanley Black & Decker. "As the world's largest tools and storage company, we're right at home in the Makerspace Pavilion, and we welcome innovative young minds to join us for an exciting opportunity to use their hands and their minds to create something truly unique. We look forward to seeing the ideas that emerge with our tools and their imagination."

PHOTO CREDIT STANLEY BLACK & DECKER

MARS – Bringing your dream job to life

Mars knows that inspiring the next generation of scientists, researchers, doctors, and innovators plays a big part in the future of our lives, food and planet, which is why events like the USA Science & Engineering Festival are so important to us! From learning about our cocoa, rice and mint sourcing, to understanding how we develop our iconic flavors and how we're creating a better world for pets, there's something for everyone from Mars at this year's Festival.

From getting up close and personal with animal skeletons, to getting a behind-the-scenes look into how cocoa beans become Mars chocolate, to discovering what breed a rescue dog is – we've got you covered...and for those wanting to sniff out a little competition, our Mars Wrigley Confectionery flavor science table will challenge participants to the "smell and guess" game.

Across our business, Mars Associates push boundaries as they solve complex problems with new ideas, methods and technologies that are positively impacting the way we do business and most importantly, our planet. We hope to inspire and educate attendees about the opportunities available across STEM fields, showcasing some of the unexpected and inspiring career paths at Mars.



A behind-the-scenes look at a Mars Wrigley Confectionery Associate developing our iconic products.

PHOTO CREDIT MARS INC.

"Our next cure, innovation, or breakthrough will come from an individual empowered by STEM. The first step to securing those advancements is exposing individuals to those fields...and there is no better way to do that than the USA Science & Engineering Festival."

Jason Latimer,
Festival Performer



PHOTO CREDIT MICHAEL COLELLA FOR THE USA SCIENCE & ENGINEERING FESTIVAL

DATA SCIENCE AND ANALYTICS SKILLS – a big part of the "T" in STEM – are now foundational for success in tomorrow's workforce.



PWC JOINS THE FESTIVAL EXPO!

The PwC exhibit will supercharge kids' interest in coding and robotics through interactive activities that showcase nonprofit collaborators including MIND Research Institute, Code.org and FIRST. Kids who complete activities will leave with a fun prize while parents and teachers can recharge with complimentary coffee and electronic charging stations. When you're there, be sure to vote on the best local DonorsChoose.org projects to be funded by PwC!

During the X-STEM Symposium on Thursday, PwC Advisory Principal Mohamed Kande will host a special session, where he'll share the "Key Technologies of the Fourth Industrial Revolution."



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LOCKHEED MARTIN IS PROUD TO BE THE FOUNDING AND PRESENTING
HOST OF THE USA SCIENCE & ENGINEERING FESTIVAL.

Check out our RaDLabs Experience to explore Mars in virtual reality, drive rovers, watch exoskeleton demonstrations, virtually build aircraft and much more.

Join us April 7-8 at the Walter E. Washington Convention Center for the largest—and only—national STEM (Science, Technology, Engineering, Mathematics) event, created to inspire the next generation of scientists and engineers.

Learn more at www.lockheedmartin.com/USASEF

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