SPACE CAMP AVIATION CHALLENGE • SPACE CAMP ROBOTICS SPACE CAMP AVIATION CHALLENGE • SPACE CAMP ROBOTICS (Representation of the space of

NETFLIX THE MARS GENERATION

and and and a

CONTENTS 2018

SPACE CAMP



- 4 Where is Space Camp/Scholarships
- 5 Astronaut Alumni
- 6 7 Space Camp Programs
- 8 9 Aviation Challenge Camp Programs
- **10 11** Space Camp Robotics Programs
- 12 13 New Missions
- **14** Space Academy for Educators
- **15** Educator Scholarships
- **16** Adult Space Academy
- **17** Family Camps
- **18 19** Parent Information

For information on weeklong camps for groups, go to **www.spacecamp.com.**



Space Camp[®], Space Academy[®], Advanced Space Academy[®], Space Camp[®] Robotics, Aviation Challenge[®] Camp and Space Gear[®] are registered trademarks and service marks of the U.S. Space & Rocket Center[®]. All rights reserved. Entire contents copyrighted [©]2017 Alabama Space Science Exhibit Commission.

No reproduction of photographs permitted without written permission. Program material may be excerpted for news media coverage without permission. NOTE: Events, activities and programs are subject to change without notice. Please check our website at www. spacecamp.com. Please note that while we have made every effort to ensure the accuracy of the information presented in this magazine, we cannot be held liable for any errors, omissions, or inconsistencies.

The U.S. Space & Rocket Center is the Official Visitor Center for NASA's George C. Marshall Space Flight Center and is a Smithsonian Affiliate museum.

The U.S. Space & Rocket Center is operated by a commission appointed by the Governor of the State of Alabama, the Alabama Space Science Exhibit Commission. The U.S. Space & Rocket Center Education Foundation is an IRS 501 (c) (3) organization.







Welcome, the Mars Generation



FROM THE CEO

If you had a chance to be on the crew that leads humankind's journey to Mars, what role would you play? Pilots, engineers, doctors, botanists, roboticists – these are the kinds of professionals that will be putting a human footprint in the soil of the Red Planet. Every day at Space Camp, we see the futures of young people from all 50 states and more than 70 countries around the world expand toward being the explorers of a new world.

But the journey to Mars is much more than astronauts in a capsule. Space Camp, Aviation Challenge Camp and Space Camp Robotics are all preparing students for a future in which automated unmanned aerial systems (and spacecraft), robots and rovers are creating opportunities yet undefined. Space Camp programs allow students to use all of their skills in science, mathematics and the arts to accomplish their mission and take positive steps toward their future careers. It is a place where imaginations can run wild, where creative critical thinking and teamwork mold their dreams into reality.

Many of our 750,000 Space Camp alumni are working today on the leading edge of technology and exploration at NASA and as space industry leaders. Others are creating opportunities for living and working in space and improving life on Earth. We are so proud that their dreams began at Space Camp.

So, what are you waiting for? Come train with us to explore the cosmos. Come find your place in our journey to Mars. The adventure of your lifetime is calling. Answer it at Space Camp.

Warmest regards,

Dr. Deborah Barnhart Chief Executive Officer and Executive Director



NETFLIX ™MARS GENERATION Space Camp

Documentary

Space Camp has a starring role in a new documentary, "The Mars Generation," that is available exclusively on Netflix. The documentary, a Time Inc. production, premiered at the 2017 Sundance Film Festival, Emmy Award-winner Michael Barnett directs the full-length film that examines the science, politics and philosophy behind a journey to Mars and features Space Camp alumni who participated in the 2015 Elite Academy Program. A number of notable people appear in the film, including astrophysicist Neil deGrasse Tyson, physicist Michio Kaku, Bill Nye, then-NASA Administrator Charlie Bolden and Space X's Elon Musk.



WHERE IN THE WORLD IS SPACE CAMP®?

50 States

District of Columbia

More than 120 Nations

Space Camp is located in Huntsville, Ala., where America's space program was born. Huntsville is home to the second largest research park in the United States and the fourth largest in the world.



SPACE CAMP 750,000 Alumni

CAMP SCHOLARSHIPS Apply October through December

The U.S. Space & Rocket Center holds an annual scholarship competition each fall for students who want to attend a weeklong Space Camp, Aviation Challenge Camp or Space Camp Robotics. The competition opens mid-September and applications are due in December. Applicants may apply in one of four categories: Financial Need; Special Needs; Academic Achievement; or Leadership. Each applicant must answer two essay questions, design a mission patch, describe a science project using the scientific method, and provide three letters of recommendation.

A selection committee reviews applications and scholarships are awarded based on available funding. Winners are notified in March. To apply, visit **spacecamp.com/scholarships**.

You can make a child's dream come true by contributing \$1,000 to the General Scholarship Fund through the U.S. Space & Rocket Center Education Foundation, a 501(c)(3) organization. Donors may also establish an endowed scholarship or a memorial scholarship. To make your tax-deductible donation, visit **spacecamp.com/scholarships**.

⁴⁴ I definitely got a new perspective on aviation and spaceflight. Although my team was mostly girls, I still made some good friends. All the kids from India were on my team, and I'm actually still good friends with them! I really appreciate the emphasis on teamwork and education...

Thank you again for this great opportunity. I will truly never forget it!"

– Christopher F. Scholarship recipient

ASTRONAUT SPEAKERS EVERY WEEK IN THE SUMMER!



Percentage of Space Camp graduates who said their camp experience increased their interest in STEM topics

61%

Percentage of Space Camp graduates who are currently in or studying for careers in aerospace, defense, energy, education, biotech or technology

2017SPACECAMP ALUMNISURVEY



Percentage of Space Camp graduates whose camp experience influenced them to take more STEM classes



Percentage of Space Camp graduates who said their camp experience inspired their decision to enter a STEM field

TENSPACECAMPASTRONAUTALUMNI



Pictured here: Robert "Hoot" Gibson, five-time shuttle astronaut, speaks to guests at the U.S. Space & Rocket Center.

Dottie Metcalf-Lindenburger First Space Camp graduate in space STS-131 Discovery



Dr. Sandra Magnus STS-112, STS-126, STS-135/ULF7





6

ISS Expedition 42/43



Christina Hammock NASA Astronaut Group 21



Aleksandr Lazutkin Soyuz TM-25, Mir 23



Dr. Kate Rubins ISS Expedition 48/49



Bob Hines 2017 Astronaut Candidate



Aleksandr Serebrov Soyuz T-7/Soyuz T-5, Soyuz T-8, Soyuz TM-8/ Mir-5, Soyuz TM-17/Mir-14



Dr. Serena Auñón-Chancellor NEEMO 16

ISS Expedition 58/59



Maj. Jasmin Moghbeli 2017 Astronaut Candidate







Space Camp is the ultimate educational experience that illuminates real-world applications of science, technology, engineering and mathematics. Students work as a team and confront mission scenarios that require dynamic problem solving and critical thinking – 21st century learning skills required in the workplace.

Throughout the week, students are immersed in astronaut training techniques using equipment adapted



from NASA's astronaut program. They learn about space hardware, enjoy an educational water activity and experience an exploration mission while learning about aerospace career opportunities.

The curriculum includes an educational movie in either the Spacedome IMAX[®] or National Geographic Theater.

A DAY IN THE LIFE AT SPACE CAMP

| Sample Schedule | ACTIVITIES |
|---------------------|--|
| 8 a.m 9:15 a.m. | Prep for Day & Breakfast |
| 9:15 a.m 9:45 a.m. | Teambuilding Activity |
| 9:45 a.m 10 a.m. | Spaceflight Mission Planning |
| 10 a.m 11 a.m. | Simulated Spaceflight Mission |
| 11 a.m 11:30 a.m. | Mission Debrief |
| 11:30 a.m 12 p.m. | Expedition Living Presentation |
| 12 p.m 12:45 p.m. | Lunch in Crew Galley |
| 12:45 p.m 2:15 p.m. | Rocket Construction |
| 2:15 p.m 3:15 p.m. | Spaceshot, G-force, and Climb the Mars Wall Simulators |
| 3:15 p.m 3:45 p.m. | History of Spaceflight in Museum Part 1 |
| 3:45 p.m 4:45 p.m. | Astronaut Training Simulator |
| 4:45 p.m 5:45 p.m. | Mission Patch Design |
| 5:45 p.m 6:30 p.m. | Dinner |
| 6:30 p.m 8:30 p.m. | Astronomy Show |
| 8:30 p.m 9 p.m. | Daily Debrief |
| 9 p.m 9:45 p.m. | Prep for Bed & Lights Out |
| 9:45 p.m. | Lights Out |

Activities

- Train on astronaut simulators, including Multi-Axis Trainer, the Five Degrees of Freedom Chair and the 1/6th Gravity Chair
- Build and launch rockets
- Compete in Camp-wide challenge nights
- Enjoy an aquatic teambuilding activity

Fast Facts

For orientation times, visit spacecamp.com.

- Arrival window: Sunday 1:30 -3:30 p.m. (CT)
- Graduation: Friday 9 10 a.m.
- Price: \$999*
- Camp programs are available during summer months and select weeks throughout the remainder of the year. See spacecamp.com for details and schedule.

*Includes a \$50 non-refundable registration fee

Sleepaway package (any open sessions):

10% off each additional session; no extended-stay fees charged for the weekend between sessions.



Cadettes, Seniors and Ambassadors journey for six days and five nights through the ultimate Space Camp® experience during Girl Scout Destinations Week. Come as an individual and leave as a team after bonding with lifelong friends from all over the world. For more information and to apply online, visit girlscouts. org/destinations. The discounted rate for Girl Scouts includes meals and lodging.

Trainees earn the Star Gazer and Out-of-This-World badges through the Girl Scouts of North Central Alabama.



BOY SCOUT SPACE EXPLORATION BADGE AVAILABLE

CONTACT US OR VISIT US ONLINE website spacecamp.com/space phone (800) 637-7223 (256) 837-3400



Space Academy trainees experience firsthand the future of space travel and train to solve technically challenging anomalies in order to complete their space mission. They practice clear communication through aquatic teambuilding activities, leadership training at our Area 51 Challenge Course and put engineering skills to the test as they construct an ablative shield during the Thermal Design Challenge.

Activities

- Design, build and launch team rockets
- Train on astronaut simulators, including Multi-Axis Trainer and the 1/6th Gravity Chair
- Experience the thrill of simulated space missions

Fast Facts

For orientation times, visit spacecamp.com.

- Arrival window: Sunday 11:30 a.m. -1:30 p.m. (CT)
- Graduation: Friday 11 a.m. 12 p.m.
- Price: \$999*
- Camp programs are available during summer months and select weeks throughout the remainder of the year. See spacecamp.com for details and schedule.

*Includes a \$50 non-refundable registration fee

"Space Camp gave me confidence to take on challenges I otherwise wouldn't in middle school and high school."

> Security Analyst Cleveland, OH – 2017 Alumni Survey



Advanced Space Academy explores college and career preparation through an immersive experience in science, engineering, technology and math. Trainees experience a variety of astronaut training exercises, engineering challenges and teambuilding activities all culminating in an extended-duration simulated space mission.

Activities

- Train like an astronaut on the Multi-Axis Trainer and the 1/6th Gravity Chair
- Test individual abilities and team skills in a simulated mission to Mars
- Design and build customized rockets, robots, space suits and heat shields in engineering challenges
- Participate in the introductory pilot training course at Aviation Challenge which features survival training and jet aircraft simulations
- Conduct a simulated SCUBA spacewalk
 in our dive tank

Fast Facts

For orientation times, visit spacecamp.com.

- Arrival window: Sunday 10:30 11:30 a.m. (CT)
- Graduation: Friday 11 a.m. 12 p.m.
 Price: \$1,199*
- Camp programs are available during summer months and select weeks throughout the remainder of the year. See spacecamp.com for details and schedule.

*Includes a \$50 non-refundable registration fee

Sleepaway package (any open sessions):

10% off each additional session; no extended-stay fees charged for the weekend between sessions.



College Credit

Advanced Space Academy trainees can earn college credit through The University of Alabama in Huntsville. For information on credits available, see information on page 19.



MEET OUR ALUMNI

Dr. Kate Rubins is the third Space Camp® alumna to fly in space, with a launch to the International Space Station in the summer of 2016. Kate dreamed of becoming an astronaut as a child and did chores around the house to earn her trip to Space Academy® in seventh grade. She left camp knowing she needed to take as many math and science courses as she could, and that focus paved the way to her study of viral diseases and, ultimately, the NASA astronaut corps. Kate received a bachelor's degree in molecular biology and a Ph.D. in cancer biology. Selected by "Popular Science" magazine as one of its "Brilliant 10" in 2009, Kate was a Fellow and Principal Investigator at the Whitehead Institute for Biomedical Research at the Massachusetts Institute of Technology before becoming a member of the 20th NASA astronaut class.

- Dr. Kate Rubins

Age attended Space Academy: 14

Education:

Bachelor of Science, University of California, San Diego Ph.D, Stanford University

Occupation:

Astronaut, Flight Engineer for Expedition 48/49 Napa, Calif.

AVIATION Challenge Mach I

Ages 9-11 • Grades 4-6

Aviation Challenge Camp combines critical thinking, teamwork and leadership training in a five-day military-themed adventure. Students learn basic principles of aviation and put their knowledge to the test in a variety of flight simulators. Taking the role of fighter pilots, students run control systems and scenariobased missions and learn basic water- and land-survival skills. They also learn about civilian and military careers in aviation.



The curriculum includes an educational movie in either the Spacedome IMAX[®] or National Geographic Theater.

Activities

- Learn navigation and air combat techniques and put them to the test in a variety of flight simulators
- Learn about Unmanned Aerial Systems and their applications

 Test patrolling, teamwork and outdoor training skills in a Field Training Exercise (FTX)

Fast Facts

For orientation times, visit spacecamp.com.

- Arrival window: Sunday 11:30 a.m. - 2 p.m. (CT)
- Graduation: Friday 10 11 a.m.
- Price: \$999*
- Camp programs are available during summer months and select weeks throughout the remainder of the year. See spacecamp.com for details and schedule.

*Includes a \$50 non-refundable registration fee

Sleepaway package (any open sessions):

10% off each additional session; no extended-stay fees charged for the weekend between sessions.

"It is awesome. Please continue the program, especially Aviation Challenge and drone usage... Love the details and hands-on training simulations."

> Account Manager, The Woodlands, TX – 2017 Alumni Survey



AVIATION BADGE AVAILABLE CONTACT US OR VISIT US ONLINE website spacecamp.com/aviation phone (800) 637-7223

(256) 837-3400

A DAY IN THE LIFE AT AVIATION CHALLENGE Sample Schedule

| TIME | ACTIVITIES |
|---------------------|--|
| 7 a.m 8:30 a.m. | Prep for Day & Eat Breakfast |
| 8:30 a.m. – 10 a.m. | Flight Simulator Overview & Training |
| 10 a.m 11 a.m. | Introduction to Land Survival Activity |
| 11 a.m noon | IMAX® or National Geographic Theater Movie |
| Noon - 1:30 p.m. | Lunch |
| 1:30 p.m. – 3 p.m. | Flight Simulator Overview & Training |
| 3 p.m. – 4 p.m. | Introduction to Patrolling Activity |
| 4 p.m. – 6 p.m. | Water Activity |
| 6 p.m. – 7 p.m. | Dinner |
| 7 p.m. – 8 p.m. | Introduction to Drill & Ceremony Activity |
| 8 p.m. – 9 p.m. | Teambuidling Activity |
| 9 p.m. – 9:30 p.m. | History of Flight |
| 9:30 p.m 10 p.m. | Prep for Bed, Call Home |
| 10 p.m. | Lights Out |



Young leaders are tested at Aviation Challenge Mach II in their knowledge of aerodynamics and teamwork. Trainees take part in hands-on activities based on the design principles of modern air systems in flight simulators and go through air combat maneuvering training to prepare for mission scenarios. They also learn search and rescue skills to rescue a downed pilot.

Activities

- Experience g-force training in our centrifuge
- Learn basic land and water survival
- Fly in a UAV drone simulator

Fast Facts

For orientation times, visit spacecamp.com.

- Arrival window: Sunday 11:30 a.m. 2 p.m. (CT)
- Graduation: Friday 10 11 a.m.
- Price: \$999*
- Camp programs are available during summer months and select weeks throughout the remainder of the year. See spacecamp.com for details and schedule.

*Includes a \$50 non-refundable registration fee





Mach III missions challenge trainees with freedom of control, requiring them to think about maneuvers in all three rotationalaxes of flight as they take on the most advanced flight simulations, engineering principles and leadership responsibilities. Field training is focused on discipline and attention to detail in survival situations. A night Field Training Exercise (FTX) requires teams to work together to recover intelligence or rescue a downed pilot. Communication is paramount as everything is taken to the next level in Mach III.

Activities

- Fly simulators with tandem-seat cockpits
- Perfect advanced combat maneuvers that include navigation, air-to-ground and air-to-air engagement
- Experience the thrill of the simulated parachute water landing on a 150-foot zip line with real pilot harness fittings (summer only)
- Use a UAS simulator to plan for missions and provide real-time data to a command center during mission execution

Fast Facts

For orientation times, visit spacecamp.com.

- Arrival window: Sunday 11:30 a.m. 2 p.m. (CT)
- Graduation: Friday 10 11 a.m.
- Price: \$999*
- Camp programs are available during summer months and select weeks throughout the remainder of the year. See spacecamp.com for details and schedule.

*Includes a \$50 non-refundable registration fee

Sleepaway package (any open sessions):

10% off each additional session; no extended-stay fees charged for the weekend between sessions.



College Credit

Aviation Challenge Mach III trainees can earn college credit through The University of Alabama in Huntsville. For information on credits available, see information on page 19.



MEET OUR ALUMNI

⁴⁴I can't remember if my mom rented "Space Camp" the movie one Friday night, or if I saw a commercial on TV, or even if it was my stepfather, an Army aviator, just deciding to send me to camp that first got me interested in Space Camp. I just knew I really wanted to go [to Space Camp], and once I started, I knew I had to keep coming back.

At camp, I was continually learning and having fun while doing it. My favorite memories of Space Camp involved building the rockets, designing mission patches and participating in scripted missions. I was very proud to have won the Right Stuff award at Aviation Challenge. I have been fortunate to share my experiences with my son and daughter and send them to camp, where they also received Right Stuff awards.

Space Camp and Aviation Challenge definitely sparked my interest in aviation and helped fuel the fire for my future. "

-Emilio Natalio

Age attended Space Camp: 10 Space Academy, 12 Aviation Challenge Mach I, 11 Aviation Challenge Mach II, 13

Education:

Bachelor of Science, Technical Management and Occupational Safety, Embry Riddle Aeronautical University AAS, Technical Management, Embry Riddle Aeronautical University AAS, Mechanical and Electrical Technology Graduated from Enterprise High School, 1997

Occupation:

Currently serving as the 1-228th Aviation Regiment's Aviation Safety Officer located at Soto Cano Air Base, Honduras. Achieved approximately 1100 hours, 250 Night vision goggle hours. Qualified in the UH-60A/L/M.

Served as Tactical Operations Officer. Served in Operation Enduring Freedom (2012-2013) and Operation Freedom Sentinel (2015), Afghanistan.



SPACE CAMP ROBOTICS Ages 9-11 · Grades 4-6

Space Camp Robotics trainees learn their ideas can become a reality as they use robotic technologies to create engineering solutions for real-world problems. Trainees work as a team to build and test their own designs in air, land and sea challenges. The week culminates with a spirited contest as trainees test the robots they spent the week building, programming and testing.



The curriculum includes an educational movie in either the Spacedome $\mathsf{IMAX}^{\circledast}$ or National Geographic Theater.

Activities - Air • Sea • Land Robotics

 Learn engineering, programming, and wireless control concepts using LEGO[®] MINDSTORMS[®] EV3 and Space Camp Robotics' RoCon technologies.

- Design, build, program and test land-based robots to compete on the lunar-themed Challenge Table.
- Learn to use binary code, the language of machines
- Design, build and pilot underwater robots using the SeaPerch ROV system
- Fly RealFlight drone mission scenarios

Fast Facts

For orientation times, visit spacecamp.com.

- Arrival window: Sunday 1:30 -3:30 p.m. (CT)
- Graduation: Friday 9 10 a.m.
- Price: \$999*
- Camp programs are available during summer months and select weeks throughout the remainder of the year. See spacecamp.com for details and schedule.

*Includes a \$50 non-refundable registration fee

A DAY IN THE LIFE AT SPACE CAMP ROBOTICS

| TIME | ACTIVITIES |
|---------------------|--|
| 7 a.m 8:15 a.m. | Prep for Day & Eat Breakfast |
| 8:15 a.m 9 a.m. | Build Session 1 |
| 9 a.m 10 a.m. | Electronics Project Part 1 |
| 10 a.m 11 a.m. | Underwater Robotics Activity |
| 11 a.m 12 p.m. | Build Session 2 |
| 12 p.m 12:45 p.m. | Lunch |
| 12:45 p.m 1:30 p.m. | Time in Gift Shop |
| 1:30 p.m 2 p.m. | Space Shot, G-Force & Climb the Mars Wall Sims |
| 2 p.m 3 p.m. | Explore the Museum |
| 3 p.m 4 p.m. | IMAX® or National Geographic Movie |
| 4 p.m 5 p.m. | Build Session 3 |
| 5 p.m 6 p.m. | Electronics Project Part 2 |
| 6 p.m 6:45 p.m. | Dinner |
| 6:45 p.m 7:30 p.m. | Aerial Robotics Activiy |
| 7:30 - 8:30 p.m. | Robotics Competition |
| 8:30 p.m 9 p.m. | Prep for Bed, Call Home |
| 9 p.m. | Lights Out |

Project-based, hands-on experiences founded on invention and entrepreneurship that accommodate a variety of learning styles



ROBOTICS BADGE AVAILABLE

CONTACT US OR VISIT US ONLINE website spacecamp.com/robotics phone (800) 637-7223 (256) 837-3400



ROBOTICS ACADEMY Ages 12-14 • Grades 7-9

The academy-level robotics program takes it to the next level for the next generation of engineers, designers and gear heads with real-world applications of science, technology, engineering and math. Hands-on sessions in robot chassis design and building algorithms, remotecontrol design and operation, and aerial drone operations make for an exciting adventure. Trainees focus on teamwork as they learn what it's like to engineer and design robots on land, in the air and underwater with state-of-the-art materials. The week culminates with trainees competing to complete tasks on a Challenge Table using robots they spent the week building, programming and testing.

Activities

- Program robots to interact with the world using a variety of sensors and motors
- Learn with hands-on sessions in robot chassis design and building algorithms, remote-control design and operation and aerial operations
- Master managing wireless signals in order to control and pilot robots on the Challenge Table
 - "It showed me a goal that I could work toward."

Student Syosset, NY – 2017 Alumni Survey

- Choose from optional lessons such as building robotic attachments, programming with sensors and data functions, or using both tactile and touchless Human Interface Devices
- Use the binary number system and basic logic functions to understand how machines "think"
- Design, build and pilot underwater robots using the SeaPerch ROV system
- Train in cutting-edge, customdesigned Unmanned Aerial Systems training simulation VAMPIRE Pro and fly quadcopters

Fast Facts

For orientation times, visit spacecamp.com.

- Arrival window: Sunday 1:30 -3:30 p.m. (CT)
- Graduation: Friday 9 10 a.m.
- Price: \$999*
- Camp programs are available during summer months and select weeks throughout the remainder of the year. See spacecamp.com for details and schedule.

*Includes a \$50 non-refundable registration fee

Sleepaway package (any open sessions):

10% off each additional session; no extended-stay fees charged for the weekend between sessions.





MEET OUR ALUMNI

⁴⁴When I was 3 years old I told my parents I wanted to be an astronaut. I got to stay home from school to watch the Challenger launch, so the next logical thing to do was to go to Space Camp!

What I really remember taking away from my experience at camp was how to work in teams. One exercise was held in the shuttle experiment bay. Each of us was given a specific role – I was the medical specialist. One by one, each of the crew, including the commander, was exposed to radiation and given a red sticker indicating they were disabled. The rest of us had to figure out how to make do with the remaining able crew and eventually it became my job to figure out what skills we had left, what tools we could use and by the end of the exercise, how to save the exposed crew. It was great fun and was one of my earliest influential exposures to how people in a group operate outside of school.

There is a lot of attention paid now to encourage girls and women to pursue STEM disciplines. I feel fortunate to have felt no stigma at Space Camp for being a female. Space Camp further inspired my aspirations to pursue my interest in space and it never occurred to me that there would be any limitation because of my gender. I was already interested in space by the time I attended Space Camp, but my camp experience sealed the deal on my career aspirations. I get paid to build satellites! "

-Olivia Ryu

Age attended Space Camp: Space Academy, 14

Education:

Bachelor of Science, Physics, Master of Science Engineering Management

Occupation:

Engineering Program Manager at Terra Bella Google, overseeing the production of high resolution earth observation satellites



NEW MISSIONS

Just as NASA and commercial companies are moving toward deep space exploration, so is Space Camp. Trainees take part in missions aboard NASA's Orion capsule and Altair lander to Mars.* Trainees are challenged to survive, conduct research and work together as a team while millions of miles from home. The students of today are the generation that will travel to Mars, and this simulation sends them on the path to being the first people on the Red Planet. The all-new simulation features NASA's next great ship, the Space Launch System, which is being developed here in Huntsville, Ala.



The Mission Center Complex, where Space Camp students of all ages train, has new lunar missions as well as an updated mission control. Space Camp missions are also centered around a full-scale representation of the current manned space program: the International Space Station (ISS). While on the ISS in the MCC, trainees conduct representative science experiments, are responsible for command and control and perform spacewalks in realistic white space suits.

*Advanced Space Academy trainees



ISS: SCIENCE ON ORBIT EXHIBIT

MISSIONS TO MOON, MARS AND INTERNATIONAL SPACE STATION



SPACE ACADEMY FOR EDUCATORS

Space Academy for Educators (SAE) is the most exciting professional development on the planet.

SAE brings together the excitement of simulated space missions with the real-world applications and lesson plans teachers need to inspire their students in science, technology, engineering and mathematics.

Educators spend five days at Space Camp networking with fellow teachers and participating in NASA-infused, hands-on activities.

While at SAE, educators also discover resources for building their own activities, tap into a network of committed colleagues eager to share ideas and best practices and learn in a fun, immersive environment where "failure is not an option."

Activities

- Work with NASA-inspired lesson plans
- Scale lesson plans to fit a variety of grade levels
- Adapt hands-on activities correlated to national standards
- Train like an astronaut
- · Meet an astronaut
- · Build and launch rockets
- Develop camaraderie and communication skills on the Area 51 Challenge Course

Fast Facts

- Dates: Offered in June and July; check spacecamp.com/educators for dates and availability
- Tuition: Includes food, program materials, flight suit and housing



on the campus of The University of Alabama in Huntsville. Daily transportation to and from the dormitory to the U.S. Space & Rocket Center is provided.

- Arrival window: From 4 8 p.m. at UAH the day prior to start of camp
- Graduation: The evening of the last day of camp
- Price: \$949*

*Includes a \$50 non-refundable registration fee

Graduate Credit

Build on the knowledge gained as part of the Space Academy for Educators and earn three graduate credit hours. ED 532 and SPA 532-Space Orientation for Educators is offered online by The University of Alabama in Huntsville. This online course provides formal framework for reflection and the development of lesson plans to adapt your new expertise in space science into effective and exciting methods for the classroom. For more information, please visit pcs.uah.edu/SpaceEducator.** (accredited through SACS).

Professional learning: Receive up to 45 hours of continuing education credit.

**Applicants must apply for graduate credit prior to attending. Discounted graduate tuition fees apply. For information visit www.pcs.UAH.edu/ SpaceEducator.





MEET OUR ALUMNI

⁴⁴ My former 8th grade teacher, Ms. Annie Mae King, first encouraged me to try to apply to Space Camp by applying to the National Society of Black Engineers (NSBE) scholarship which was only awarded to two students per year.

Space Camp's educational activities gave me the ability to see unknown possibilities in science, technology, engineering, art and math (S.T.E.A.M) through hands-on experiments, tools, simulations and projects led by great counselors and peers. I had a great time as I thought about school work, my interests and a career path to pursue in college. My Space Camp experience helped me connect the dots in a comfortable atmosphere.

I am honored to say Space Camp greatly inspired me in the career I have 25 years later. Today, I am a part of NASA's human spaceflight programs to achieve mission success including Space Shuttle missions, and science and exploration related work. I also perform other duties in support of many organizations including industry and academia.⁷⁷

- Alicia Carroll

Age attended Space Camp: Space Academy, 14

Education:

Bachelor of Science, Mechanical Engineering, Tuskegee University

Master of Science, Business Administration, Florida Institute of Technology, Redstone Arsenal

Master of Science, Project Management, Florida Institute of Technology, Redstone Arsenal

Occupation:Technical Resources Management/Aerospace Technology (AST) Engineer, NASA Marshall Space Flight Center

CONTACT US OR VISIT US ONLINE

spacecamp.com/space/educators

email questions to: education@spacecamp.com phone (800) 637-7223 (256) 837-3400

EDUCATOR SCHOLARSHIPS

Honeywell

EDUCATORS AT SPACE ACADEMY

Created in partnership with the U.S. Space & Rocket Center, Honeywell developed the awardwinning Honeywell Educators @ Space Academy (HESA) scholarship program to help middle school math and science teachers become more effective educators in science, technology, engineering, and mathematics (STEM). During the past 13 years, Honeywell has awarded scholarships to 2,776 teachers from 62 countries and 52 U.S. states and territories, reaching more than 3 million students.

Since 2004, educators have shared their experiences and knowledge to more than two million students, inspiring many to pursue STEM education and careers. From winning grants from local and federal governments, to entering students in international and NASA educational projects, to creating STEM-focused after school programs, the impact of the program is continuing beyond the classroom.

To learn more about this scholarship program visit, https://educators. honeywell.com/application.





Alabama teachers qualify for a special scholarship opportunity. For more infomation, visit: spacecamp.com/ space/educators



MEET OUR ALUMNI

"I used to watch Space Shuttle launches as a kid and I've always been an advocate for space exploration. When the opportunity arose to come to Space Camp as an educator, I jumped at the chance. I got to meet so many teachers while at camp, and as a Crew Trainer, I get to keep up those connections and facilitate connections between others. My most memorable moments at Camp were during our missions. As the commander for our Orion mission, I got to enjoy being a leader to other teachers from around the world. This role fostered a sense of international cooperation that teachers do not often get to experience. Space Camp was a fantastic experience that doesn't stop at graduation. The ride continues as long as you are willing to stay on it. Space Academy for Educators is a good launching point for some teachers. I take my knowledge and try to embed it in what I do in the classroom, to keep the experience alive. Space Camp inspired me to step outside what I was doing and to further inspire my students. Ultimately, I gained a better understanding of the importance of global education. I feel incredibly fortunate for the opportunity, and I continue to incorporate these values in the classroom. It is important to involve other cultures and give my students rare cultural life experience."

-Spencer Kiper

Attended Camp:

Honeywell Educators at Space Academy, 2011 Space Camp Educator Crew Trainer, 2014-2017

Education:

Bachelor of Arts, English and Biology, Louisiana State University Shreveport Master of Education in Educational Technology, American College of Education

Occupation:

Grades 6-8 STEM Education

Awards:

2016 National Aerospace Teacher of the Year 2017 Henry Ford Teacher Innovator Award



ADULT SPACE

You're never too old to come to Space Camp! The Adult Space Academy experience includes handson, interactive space missions and model rocket construction and launch. Adults train like astronauts on the Space Camp simulators, including the 1/6th Gravity Chair and Multi-Axis Trainer. Trainees also get a lesson on spaceflight history at one of the world's largest space museums. It's the ultimate experience for anyone who has wondered what it's like to be a part of space exploration.



Activities

- Train for a mission to the International Space Station and beyond!
- Learn about current NASA and commercial space exploration initiatives
- Test your skills in our Area 51 Challenge Course teambuilding elements

Fast-Facts

Adult Space Academy is offered year-round on selected weekends. Lodging is provided in our Space Camp Habitat facilities with communal, camp-style accommodations set up to replicate the International Space Station. Hotel accommodations are also available, featuring exclusive rates for Space Camp guests. For information on nearby hotels, please visit www.spacecamp.com/travel. For graduation schedule, visit spacecamp.com.

- Arrival window: Friday 11 a.m.-1 p.m.
- Graduation: Sunday 11 a.m.
- Cost: \$549* per person

*Includes a \$50 non-refundable registration fee

Go for the full adventure!

Train like an astronaut in our allinclusive weeklong adult camp program. Six days, five nights provide time for a more immersive experience with extra missions not offered in the weekend camp. Embark on a mission to Mars in an Orion capsule and learn about NASA and commercial space exploration initiatives.

- November 12-17, 2017
- Cost: \$1,299* per person

*Includes a \$50 non-refundable registration fee

Reconnect with Camp: Join the Alumni

If you're one of Space Camp's and Aviation Challenge Camp's more than 750,000 alumni, we want to hear from you. Our alumni and the amazing contributions they are making in their careers and to their communities are the "fuel in our tank" as we prepare current and future generations of trainees for their lives after Camp.

Register at SpaceCampAlumni.com and sign up for our newsletter and share YOUR alumni story. You can even get involved with exciting projects and initiatives benefiting trainees of today and tomorrow!



A DAY IN THE LIFE AT ADULT SPACE ACADEMY

Sample Schedule

| TIME | ACTIVITIES |
|---------------------|--|
| 7:30 a.m 8 a.m. | Breakfast |
| 8 a.m 9 a.m. | Astronaut Training Simulators |
| 9 a.m 9:30 a.m. | Time in Museum |
| 9:30 a.m 11 a.m. | Mission Training |
| 11 a.m noon | IMAX® or National Geographic Theater Movie |
| Noon - 12:30 p.m. | Lunch |
| 12:30 p.m 1:30 p.m. | Simulated Spaceflight Mission |
| 1:30 p.m 2:30 p.m. | History of Spaceflight in Museum |
| 2:30 p.m 3:30 p.m. | Mission Training |
| 3:30 p.m 5 :30 p.m. | Simulated Spaceflight Mission |
| 5:30 p.m 6 p.m. | Dinner |
| 6:00 p.m 6:30 p.m. | Mission Patch Design |
| 6:30 p.m 7:30 p.m. | Astronaut Training Simulators |
| 7:30 p.m 9 p.m. | Rocket Construction |
| 9 p.m 9:30 p.m. | End Day |



Ages 7 to 100

Bring the <u>entire</u> family! Whether in astronaut or fighter pilot training, parents, grandparents, children and extended family enjoy the experience of a lifetime at Family Camp.

Families train as astronauts in Family Space Camp as they work together as a team during rocket construction and explore one of the world's largest spacecraft collections.

Aviation Challenge Family Camp provides families an opportunity to test their mettle in fighter pilot training as they compete in the King of the Hill competition.

Lodging is on-site in our Habitat facilities with communal, camp-style accommodations, and meals are served in the Space Camp Crew Galley. Due to the varied ages of Family Camp participants – many times multi-generational – hotel accommodations are also available, featuring exclusive rates for Space Camp guests. For information on nearby hotels, please visit www. spacecamp.com/travel.

For a family weekend getaway or for a unique family reunion, Family Camp provides treasured memories that will last a lifetime.

Space Camp Activities

• Simulated mission to the International Space Station and beyond!



- Astronaut simulators, including Multi-Axis Trainer and the 1/6th Gravity Chair
- Spacedome IMAX® or digital movies in the National Geographic Theater

Aviation Challenge Camp Activities

- Land and water* survival training
- Fighter jet simulations
- Spacedome IMAX[®] or digital movies in the National Geographic Theater

Fast Facts

- Arrival window: Friday 11 a.m.-1 p.m.
- Family Camp is offered year-round on most weekends.Visit spacecamp.com for dates.
- Graduation: Sunday 11 a.m.
- Family Camp: Space Camp and Aviation Challenge \$948** pair/ \$349 each additional

*Summer only

**Includes a \$50 non-refundable registration fee

Perfect learning adventure for homeschool families



MEET OUR ALUMNI

⁴⁴ I grew up in a small town in Washington State where I didn't know anyone who was interested in space like I was. When I came to Space Camp, I met so many kids who were like me. It was one of the best weeks of my life, and I wanted to do it again. I came back for Advanced Academy when I was 17, and it was above and beyond. I learned so much about team work and problem-solving. The sixhour mission was pretty awesome, too.

I came to work at Space Camp when I was 20, and it felt like I had won the lottery. I got down there, and I saw all the opportunities outside of camp. I transferred from the University of Washington to the University of Alabama in Huntsville, and I got a research assistant position in the Propulsion Research Center at Marshall Space Flight Center through UAH. I then went on to get my Ph.D. in mechanical engineering at Penn State.

Space Camp definitely inspired me to be where I am. It motivated me and gave me confidence. It gave me the confidence to know I could do it. ⁷⁷

– Michelle Christenson

Age attended Space Camp: Space Academy, 13, and Advanced Space Academy, 17; Space Camp Crew Trainer, 20 to 23

Education:

Bachelor of Science, Mechanical and Aerospace Engineering, University of Alabama in Huntsville; Master of Science and Ph.D., Mechanical Engineering

Occupation:

Propulsion Development Engineer at Blue Origin space flight company



PARENT INFORMATION

SAFETY AND SECURITY

- Uniformed security guards on premises 24/7
- Nurses are staffed 24-hours-a-day if weeklong trainees are present. Otherwise nurses are staffed for museum hours (9 a.m. - 5 p.m.)

HABITATS

- Trainees are housed in Space Camp Habitat bays of seven beds or larger Habitat bays of 20 – 40 beds.
- Blankets, sheets, pillowcases and pillows are provided for our weeklong trainees.
- Towels and washcloths are not provided.
- Lockers are in each room. Trainees must provide their own padlock to secure their valuable belongings.
- Adult guests staying in the Habitats are screened through a visitor clearance system used by more than 18,000 U.S. schools.

MEALS

- Breakfast, lunch and dinner are provided daily in the Space Camp Crew Galley.
- Meals are all-you-can eat, and we offer an international menu of foods, vegetarian line and full salad bar.
- We are very experienced in accommodating trainees with special dietary needs. Call (256) 721-7174 or email specialdiets@ spacecamp.com. (Four-week advanced notification required for special dietary requests.)

Team trust and cohesion



CREW TRAINERS

- Complete extensive training in simulator safety, program fundamentals and age characteristics
- Have a minimum of 30 hours of college credit
- Are at least 20 years old.
- Have experience working with young people
- Pass federal background check and drug tests

CANCELLATION POLICY

 www.spacecamp.com/policies/ cancellation

REGISTRATION & CONFIRMATION

- You may register online at www. spacecamp.com or by calling (800) 637-7223 or (256) 837-3400.
 After registration, you will receive an email confirmation with necessary information.
- Health and transportation forms will be required in order to attend camp. These forms must be filled out via our website; details will be in the confirmation email.

TRAVEL

- Space Camp, Aviation Challenge Camp and Space Camp Robotics are located approximately 10 miles from the Huntsville International Airport.
- Transportation to and from the Huntsville International Airport (HSV) is available for trainees for \$50 round-trip.
- Trainees are greeted at their gate by our uniformed staff members and transported directly to Space Camp.
- Extended-stay options are available for trainees whose travel schedule requires them to arrive one day early or depart one day later; please call (800) 637-7223 or (256) 837-3400 for details.





COLLEGE CREDIT Advanced Space Academy trainees

can earn college credit from The University of Alabama in Huntsville with the following courses: ESS 100-Introduction to Space Science* (1-hour credit upon camp completion) and SCI 199-Introduction to Physical Science and Research Methods (3hour credit online course which will allow you to gain an introduction to UAH College of Science disciplines and research methods). For more information, please visit pcs.uah.edu/ USSRC.

*International students entering the U.S. on a B1/B2 visa, or through the Visa Waiver Program, are not eligible to receive the 1-hour ESS 100 credit due to visa restrictions.

Aviation Challenge Mach III trainees

can earn college credit from The University of Alabama in Huntsville with the following courses: ENG 105-Introduction to Aeronautics* (1hour credit upon camp completion) and SCI 199-Introduction to Physical Science and Research Methods (3hour credit online course which will allow you to gain an introduction to UAH College of Science disciplines and research methods). For more information, please visit pcs.uah.edu/ USSRC.

*International students entering the U.S. on a B1/B2 visa, or through the Visa Waiver Program, are not eligible to receive the 1-hour ENG 105 credit due to visa restrictions.



Crew trainers complete extensive training and background evaluations and are trained in safety and program curriculum.





MEET OUR ALUMNI

⁴⁴ I had always been a sci-fi fan, but when I saw the Pathfinder Rover land on Mars, I was hooked. I made the decision in 6th grade that I wanted to be an engineer for NASA. For an early high school graduation present, my parents decided to send me to Advanced Space Academy. Being able to meet and interact with people around the country made a big impact on me. Working with people from different areas and background taught me how to work in my career with people from around the world.

In 2004, I came back as a Space Camp counselor working with Space Academy and Advanced Space Academy. I learned more about Marshall Space Flight Center and started looking at graduate programs in Alabama. I also met my future wife who was also working at Space Camp at the time!

Space Camp opened a lot of doors and opportunities that I did not realize were out there. I learned about all the different N ASA facilities around the country. Until you know what's out there, you never know what opportunities you can fall into."

> – Nicholas Mastramico Age attended Space Camp: Advanced Space Academy, 17 Space Camp Counselor, 22

Education:

Bachelor of Science, Mechanical Engineering, Youngstown State University, OH Master of Science, Aerospace Engineering., University of Alabama

Occupation: Structural Engineer at NASA, MSFC

YOUR ONE-STOP \$99 SHOP FOR ALL THINGS SPACE

15 each (available after registration)

The team patch will be customized with the team members' names. Patches may be pre-ordered or ordered by the trainee at camp. Patches will be ready at graduation.

Available only for weeklong camps.

AUTHENTIC FLIGHT SUIT

Order the official flight suit for your Space Camp[®], Space Academy[®] or Aviation Challenge[®] Camp adventure! These flight suits are representative of what real astronauts and jet fighter pilots wear and both come with official patches and your personalized leather name badge!

Flight suitYouth sizes: 10-20, Adult sizes: S-XXL

CLOTHING SET

\$99

We've combined our most popular clothing into one complete package! Tops are customized with the logo from your camp program. Space Camp set includes T-shirt, shorts, hooded sweatshirt, sweatpants and a backpack. Aviation Challenge Camp set includes T-shirt, hooded sweatshirt, camouflage pants and a knapsack.

 Space Camp
 Youth size: L, Adult sizes: S-XXL

 Aviation Challenge Camp
 Youth size: L, Adult sizes

 S-XXL

*In the event a style shown is not available, a comparable item will be substituted.

All clothing ordered will be distributed at camp. When placing your order, please provide size. Upon arrival, all trainees are sized to ensure proper fit.

A LIFETIME

CONTACT US phone (800) 637-7223 or (256) 837-3400

OFFICIAL



