



EXPLORATION GROUND SYSTEMS

HIGHLIGHTS

INTERN EDITION

**SUMMER INTERNS
GET A TASTE OF
SPACE EXPLORATION**

**TUSKEGEE UNIVERSITY
AEROSPACE ENGINEERING**

RAHMA ABDULKARIM

Above all, I love learning and enhancing my knowledge. This internship with the EGS program is an experience that has taught me a plethora of useful things in a short time, and I am beyond thankful.

I am honored to be working with the Ops Integration and Advanced Planning team. I am providing assistance with EGS Continuous Improvement initiatives. In addition, I am developing Continuous Improvement tool kits and assisting in the identification of innovative technologies that may enhance ground processing operations. I am learning how to make change easier for all and how to make the process of innovation more efficient.

Aside from my drive to learn as much as I can, I'm also very passionate about dance and running. I've been dancing since I was in third grade and I've enjoyed every minute of it. I also ran track throughout middle school. Both of these activities kept me active and happy during my studies. They also helped me learn how to remain focused and stay dedicated to anything I put my mind to – a lesson I will put to use as I continue in my degree and hopefully go forward into flight school.



ALEC JOHNSON

HIGH SCHOOL SCIENCE TEACHER



I'm from a small town in Georgia called Madison where I live with my wife and two boys. My sons are both under two, which means I mostly enjoy catching up on sleep and running after toddlers. Since my wife is also a teacher, we were all able to move down here for the summer to enjoy the beach together.

On my off time, I enjoy listening to science podcasts and playing semiprofessional poker. My favorite podcast is Star Talk with Neil deGrasse Tyson who also happens to be my favorite scientist. Astrophysics is one of my favorite topics of physics to teach my students, and I use his talks and discussions for many lessons.

I am excited to be working with the EGS Outreach team and the KSC Education team to make relevant and thought-provoking products for my fellow educators. I am working on creating and updating products to help inform educators on what EGS does and how it's relevant to students. I'm also creating a multi-part lesson plan which will focus on the physics involved in the splashdown and recovery of Orion.

I also am contributing to a program called ESTEAM (Exploration Science, Technology, Engineering, Arts and Mathematics), which will

connect EGS employees with seventh-graders in the Brevard area to promote discussion and interest in NASA, while fostering relationships with our community and engaging students in STEAM careers.

As an educator, it is vital that I present concepts as a story to show how different parts connect in order for students to understand and process what they are learning. By seeing firsthand how a massive organization like NASA works in regards to science and engineering, I will be better able to serve students by bringing that narrative back to them.

LINDSEY CROWN



This summer I'm working as a Strategic Communications Intern. Creativity fuels my passion, so I'm creatively consulting on a few small projects, requiring me to become well versed in the Adobe Creative Suite. Outside of work, you can find me outdoors somewhere with a camera in hand, usually not far from the nearest body of water. Although I'm convinced that I'm half mermaid, I have a psychological fear of seafood.

This summer I have been tasked with reaching out to suppliers to gather the number of jobs their partnership with EGS has created in their local communities. These numbers are used to communicate the economic impact of the space industry to stakeholders across the country. That impact helps tell the story of how NASA's mission not only impacts space, but also makes lives better here on Earth. This delivers a dual rationale of why funding NASA's future missions is so important for taxpayers and ultimately for our congressional leadership.

In addition, I coordinated the publication of the Highlights Intern Edition newsletter that you are reading. I am also working on coordinating the interns' final SEED presentations for the KLXS All Hands in a few weeks. I decided early on that the basis of my career will be to make an impact on people's lives, unconventionally. When I read NASA's vision, "We reach for new heights and reveal the unknown for the benefit of humankind," I couldn't help but feel galvanized, and that this must be the place that I belong.

TUSKEGEE UNIVERSITY MECHANICAL ENGINEERING

ZACHARY COMMON



As a small time adrenaline junky, I love trying and exploring new things. Where I'm from, Montgomery, Alabama, we don't have a lot to do, so coming to Florida and being so close to Orlando has provided quite the change in scenery. When I'm back home, I like making my own fun, such as going for runs, playing football or basketball with friends, or hanging out at the park. I also enjoy working out and reading motivational books by authors like John C. Maxwell and some fiction novels.

This summer I'm working in the EGS C3 Imagery Department. The work I do involves doing analysis on high speed digital cameras and converting film to digital video. My role is to help in designing a housing unit for the cameras on the launch pad, which requires being knowledgeable on heat dissipation, humidity, shock and various other variables that have to be taken into account for a launch. So far, I've learned about the different cameras used on launches as well as the requirements needed to operate and test these cameras.

I'm also a Cadet in the Army ROTC and I commission in December of this year. I am grateful for this experience at EGS and it has further prepared me for the role I will be taking in the United States Army,

where I will be serving as a Second Lieutenant in the Army Corps of Engineers.

HUNTER GOODENOW



In my time off, I enjoy hiking, playing board games, video games and soccer. A big interest of mine is to study the socioeconomic culture of other countries. Having already lived in Poland and the Czech Republic, one day I'd like to try living in a Scandinavian nation to further understand their happy way of living.

This summer, I have inherited a few different projects as an EGS intern. My main focus has been creating a streamlined process to enable quick and accurate internal assessments within different contracted organizations. I aim to close any gaps in the current process and ensure a closed-loop system that feeds the organizations' results back into the program

before being presented to forums and award fees. My secondary projects involve analyzing various processes and offering up ideas to make them more efficient, potentially saving thousands of labor hours a year. Growing up on the Space Coast, working for NASA has been a dream of mine since witnessing my first shuttle launch, Endeavour, in 1995. In fifth grade, I met the late John Glenn and I've been an annual Space Camp Cadet. Fast forward 22 years, I am now contributing to the EGS Program as an intern. I carry the experience of a diverse set of professions, traveled the world, and met a facet of inspiring people. Although I'm one of the oldest interns, space exploration will always bring out my childlike sense of wonder.

ASHLEY RAUSCH



What many people don't know about me is that I'm a huge foody. I'm always looking for new recipes to cook. I would say my favorite recipe to prepare is a Filipino dish called Adobo. I cook ribs in a mixture of vinegar, soy sauce, garlic and bay leaves and serve them over rice, and try to cook a large amount because I know I'll want to eat it for days.

I've been working to create the EGS internal website for about a year now, and I'm happy to see that the first version will be released very soon. This website serves as an archive for news, events, awards and outreach products in order to keep employees up to date with all things EGS. The site is taking a while to create because it is incredibly robust. Drupal, the content management system we're using to build the site, is extremely customizable and we are trying to make the site as intuitive as possible.

Working at the center has been one of the most challenging and rewarding experiences of my life. Before working here, I worked primarily in dental offices. This is my first job in an office setting, so I had no idea what to expect. Through my project, I found that I have a passion for software development. I really enjoy interning for EGS,

and I hope to move up to permanent employee one day.

Jonathan Gleeson, Anthony Messina, Zachary Common, Justin Bell, Hunter Goodenow and Julian Thompson observe Launch Pad 39B for the first time.



PATRICE HALL



I enjoy photography and have a growing photography business. My passion for photography started in high school and was fueled by social media; that was when my friend and I would go to different locations and style our photos the same way models would online. Capturing scenery and people's smiles is what excites me. I love making people happy by capturing everlasting moments.

This summer I have had the pleasure of using that same creativity in working with the Design Visualization Development team. I am working with computer-aided design (CAD) tools, 3D laser scanners and panoramic cameras. I've learned how to use CAD tools to replicate structures and models, as well as use kinematics with

a software called CATIA.

Aside from learning the fundamentals of what the design visualization team does, I absorbed the knowledge, advice and the many acronyms to which KSC has introduced to me. Having something to contribute is the key to a successful career. Indeed, I have given 110 percent this summer in all that I've done and I am truly grateful for gaining more skills that will contribute to my future.

TUSKEGEE UNIVERSITY MECHANICAL ENGINEERING

IMARI FLETCHER

This summer I was afforded the opportunity to intern as a Ground Processing Development engineer at KSC. This is a dream come true for me because one of my driving motivations is innovation.

I am working with the Test, Launch and Recovery department of EGS. One of my major assignments this summer is to work with the NASA Test Directors (NTD) in my office and assist them with some of their assignments and shadow them, so I can put all that information together to determine, in my own words, what my department does. In return, I am learning the things the NTDs conduct and oversee. Also, I'm learning how each individual process plays into another to accomplish a mission.

Outside of innovation, a passion of mine is serving the community. I enjoy helping to advance the environment of underprivileged communities and aiding the people of these communities. At Tuskegee, I hold the position of Technical Out-Reach and Community Help (TORCH) chairperson in our National Society of Black Engineers (NSBE) chapter for the 2018-2019 academic school year. The focus of this position is community outreach using Science Technology Engineering Math related activities and community service.

Ultimately, I enjoy working with things and in places that push me to think outside my range of knowledge, forcing me to expand my viewpoint and perspective, which ultimately leads to innovation. Working at NASA in space exploration is amazing because there are infinite possibilities to test the barriers and go beyond what anyone can imagine.



Like a true computer nerd, I started out playing video games at a young age. This, coupled with an interest in science and math courses, resulted in the software engineering student that I am today.

After being offered this internship two weeks before it started, and securing a place to live in record time, I was charged with designing an information kiosk for Firing Room 3. The project I have been assigned to is a completely new and 'blue sky' project, meaning other than the small list of criteria, it can go in any direction, giving me all kinds of freedom to really make this my own. I am the only one working on this project meaning all of the design and architecture decisions fall on me.

This was a daunting task at first because I'd never been given so much leeway on an assignment. The kiosk currently consists of a presentation that is being displayed on a 55-inch touch screen monitor near the door, making it fully interactive for anyone with access to the room. The presentation itself is the easy part, updating the constantly changing information is a task all its own. In order to keep the kiosk's data as current as possible, I have taken to writing a script that pulls the data from its source, and updates each slide in the presentation. So every morning the kiosk updates and presents itself, and in the evening it turns itself off without any human interaction whatsoever. Even though I have only been working on this project for a few weeks, I've already learned a lot about both my field of study and the workplace in general, which is something they don't teach in school.



ANTHONY MESSINA

MICHELLE TOCORA



I have an evergrowing bucket list. An activity that has always been on the top of my list is to have lunch with a female astronaut, preferably Ellen Ochoa. An interesting fear of mine is that of fireflies which I've had since I was a child. I don't go outdoors when they're out, which is from the time the sun sets until around 10:30 p.m.

This summer, I will be collaborating on Scribe. This project comprises transcribing live-streamed or archived-voice channel audio using AUDREY, JPL's Assistant for Understanding Data through Reasoning, Extraction and Synthesis. This toolset involves artificial intelligence and other traditional and big data systems that can be designed to work with Scribe. My contribution to this project will enable KSC engineers to use AI tools to launch operation flow with simplicity.

I'm thankful for the chance this internship has given me to learn and apply various software application skills, and the glimpse it has provided me into the working world.

ZACHARY HIBBARD



Between 2007 and 2017, I worked in film production on projects ranging from television to indie films, and won several awards on the film festival circuit. I once worked on a comedic short film called “The Space Coast,” which was about a young man following his dream to work for NASA while dealing with a wild, partying father figure. Most of the cast were local actors, but the father was played by Dana Snyder, who voiced Master Shake in the Cartoon Network show, Aqua Teen Hunger Force.

My job for the summer includes contributing to the development of the Resourced Environment for Enhanced Budgeting (REEB) software system, testing essential functions, and creating a developer console that can actively

monitor specific operations. Focusing on testing allows other members of the REEB team to work on critical development tasks. In my current position, I’m working in web app development. This work is allowing me to gain knowledge in front-end languages like HTML, C# and Typescript as well as the Angular and Bootstrap frameworks. My previous experience with software involved working at the hardware level, so this position provides an excellent opportunity to strengthen my skillset as well as fulfill my own dream of working with NASA.

UNIVERSITY OF CENTRAL FLORIDA STATISTICS & FINANCE

I am an outdoor sports enthusiast! I play soccer, rock climb, mountain bike and surf – generally anything that allows for me to be outside. I love the sense of excitement and adrenaline that I feel when participating in adventure sports. Whether I’m mountain biking through the forest, scaling a cliff or riding a wave – there’s nothing like it.

During the fall, I studied abroad in Vienna, Austria, and backpacked through 12 countries in Europe with my best friend that I hosted in high school as a foreign exchange student. I’ve also been playing soccer since I was three years old. Last year I was the president and coach of the UCF men’s club soccer team. Every Tuesday and Thursday you can find me at KARS II Park playing pick-up soccer.

It felt like a dream come true when I got the call informing me that I had the internship at KSC. This summer, I’m working to help analyze schedule data. This analysis includes making sense of tens of thousands of rows of schedule data to find trends, answer questions and help make better business decisions. I’m able to do this all while using a new statistical software called R that I’m learning myself and presenting to my mentor and customer. I’ve already learned so much about data analysis that I can apply to scheduling, and I look forward to what’s to come for the rest of the summer.

ANDRES ALVAREZ



NATASHA CARON

UNIVERSITY OF CENTRAL FLORIDA
INDUSTRIAL ENGINEERING



This summer I'm working with NASA as a Pathways Intern. I love learning and would go to school forever if I could. I've served in the Marine Corps as a cryptologic linguist (Urdu), and completed the police academy. I've been married for 8 years and I have a 4-year-old daughter. I know little to nothing about popular culture, and I like it that way. This summer, I am looking at migrating one inventory/supply database to another that also is currently in use. One of the databases doesn't have the required support and updates it needs, and it has been causing problems. Unfortunately, it also has some functionality not currently available in the other database. I'm trying to examine both and de-conflict any issues, then I will be formatting the data correctly for migration. I am contributing to efficiency and reducing wasted time. I'm learning about life-cycle logistics, systems engineering, supply, risk assessments, heritage items and tons more.

I never thought I would be here. I have always loved NASA and its mission, and I follow any space-related news I can, but I never imagined I would be remotely qualified to support the mission. It is still mind-blowing

to me. Even parking in the morning makes me grin, because I get to see the Vehicle Assembly Building every day. I have never felt so welcomed at a new job before, and I have never felt so supported after been thrown off into the deep end. Everyone has been very hands-off and supportive, especially with allowing me to take relevant training. Honestly, my future aspirations are limited. I want to be better than I was yesterday. Eventually, I would like a small farm with goats, chickens and bees.

FLORIDA INSTITUTE OF TECHNOLOGY
AEROSPACE ENGINEERING

I'm a former New Jersey resident, and now a former intern. Being at the center has led to some amazing opportunities, including a full-time position here at KSC under the NASA LASSO-II contract working for The Bionetics Corporation in the KSC Engineering Development Lab. I expected to make contacts throughout the internship, but was definitely shocked when it led to a job just a few weeks in. I've been a huge science fiction fan since I was a little kid, and it's what inspired me to become an aerospace engineer. Star Trek was always my favorite. During my time as an intern, I worked on the mobile launcher (ML) as the Design and Construction Engineering intern. I assisted the construction management engineers who are working on the ground support equipment installation on the ML. I've conducted a variety of inspections of the ML from top to bottom and dealt with design drawings and contractor Requests for Information. Working with a large multidisciplinary group has made every day a learning experience. Besides discovering a great amount about the ML and its inner workings, I have learned a lot regarding the design, engineering, construction and management processes of a tremendous project like this.

JONATHAN GLEESON





Interns tour the Vehicle Assembly Building.

**UNIVERSITY OF FLORIDA
MECHANICAL & AEROSPACE ENGINEERING**

My interest is in photography. I enjoy taking landscape, action and astronomy shots. In my free time I like to hit the gym for a good workout, eat cereal more than any other food and enjoy full lemons like oranges.

I grew up watching the rocket launches from my backyard and am ecstatic to be a part of something so incredible. This summer at KSC, I am working on the Life Cycle Review team that oversees all reviews that take place on a project from conception to completion. I primarily assist the team by updating old documents, helping create new ones, supporting meetings to plan and organize major reviews, and assisting in the documentation of lessons learned from prior events. I'm learning the steps of a Life Cycle Review and how to properly document and organize integration between two elements.

The coolest part of working here has been being able to see the many amazing facilities KSC has such as the VAB. I have learned a tremendous amount about systems engineering, and have gained an appreciation for the amount of work that goes behind projects of this scale. This experience has been one I will never forget. I look forward to applying what I learned this summer to my classes and future jobs, wherever they may be.



NATHAN WENDLING

JULIAN THOMPSON



**TUSKEGEE UNIVERSITY
AEROSPACE ENGINEERING**

I'm an adventurous individual who loves traveling to exotic places and exploring new cities. Harbor Bay in Maryland is one of my favorite cities. The last time I was there was when they hosted the World Cup. I enjoy watching professional basketball and football and playing Fortnite in my time off. I have always desired to visit/work for NASA at some point in my life. I felt a fierce excitement surge within me when I received my badge on the first day of my internship. I'm currently working in Information and Configuration Management. I have learned the process for requesting management approval that is necessary to make manufacturing changes.

In addition, I recently started as a structural engineer on the ML. Here I assist the lead CRYO team of engineers, cosign on Request For Information documents and work as part of the fire support safety team. It is both exciting and rewarding to be a part of something so grand.

JUSTIN BELL



I have a love for music and a strong desire to start making and producing hip-hop and R&B. My favorite artists at the moment are Kendrick Lamar and J. Cole. I've been in a concert band for many years of my life, which led to my love of music. I also started playing the trombone in sixth grade until I graduated from high school.

Over the years, I began to take an interest in coding. This internship has only furthered this interest of mine. While working as a C3 Ground and Flight Application Software Team (GFAST) Intern, I have been tasked with the job of creating a Wiki site for GFAST users. This site will serve as a hub for GFAST members to quickly find important information dealing with their specific project. I am learning many things

about the GFAST program and how to create an effective and professional Wiki site.

So far, my time at NASA has been fantastic in both the people that I've met and the experience I've gained. I hope to learn everything I can about coding and be able to apply it in my future career endeavors.

EMBRY-RIDLE AERONAUTICAL UNIVERSITY MECHANICAL ENGINEERING & SPACE STUDIES

ABDIEL SANTOS GALINDO

Originally from San Juan, Puerto Rico, I chose to go to school in Florida due to my love of NASA and Disney. On weekends, I work with Monorail Operations at Walt Disney World. I've really enjoyed working there and driving monorails for the past two-and-a-half years.

This is actually my second time interning at KSC. I interned in 2011 as part of the team that was bringing in Unmanned Aircraft Systems (UAS), and had the chance of shadowing and watching the last space shuttle launch, STS-135, from the Launch Control Center. It was an awe-inspiring moment that made me want to be a part of NASA for the rest of my life.

This summer, I'm working as a Systems Innovation engineer with the EGS Technology Management Team's Infusion & Innovation Action. I have the responsibility of gathering data of current EGS risks and correlating them with previously derived capabilities, thus determining the need to redevelop these capabilities. I also conducted initial interviews with multiple-element project managers to identify their technology gaps and develop innovative solutions to address those needs. The goal of our action is to help ensure that EGS is infusing innovative solutions into areas of safety, schedule, cost, performance, operation and maintenance. Overall, I've enjoyed witnessing NASA in both the operational and design phase as they prepare for a new era of space exploration.



**FLORIDA AGRICULTURAL AND
MECHANICAL UNIVERSITY
BUSINESS ADMINISTRATION**

I'm Haitian and can speak both French and Creole. I prefer to stay active when boredom strikes, so I taught myself how to play six instruments; the drums, bass, acoustic and electric guitars, piano and accordion. I can't read sheet music, meaning I teach myself through what I hear. I enjoy playing drums the most because it was the first instrument I learned how to play at three years old. I love working out and physical training. I bring my dumbbells with me if I leave town so I never miss a workout.

I came to EGS as a Board Support intern. This summer, I have been focusing primarily on document research and processing. Before my time, a discrepancy was made in submitting and filing meeting documents. I'm responsible for finding a solution to address this discrepancy. So I've created an algorithm, which is basically a checklist for my colleagues to determine which documents are edited and which ones still need editing, as well as archiving the documents into TechDocs. I also have been creating and continually updating the Operations Processing Project Review Ops Forum template. This template details the necessary steps that should be taken when creating, editing and/or posting presentations and supplemental documents through SharePoint. Moving forward, I hope to use my newfound data analytic skills to shine above the rest in the pursuit of my business degree.

HECTOR MARDY



JEREMY SCOTT

**UNIVERSITY OF CENTRAL FLORIDA
INFORMATION TECHNOLOGY**



Outside of work, I can be found fishing in the surrounding Brevard area. My favorite spots are the Indian River and the Sebastian area. I also enjoy drawing tattoo designs. I have \$3,000 worth of art tattooed on my body, a collection that is growing. I'm interested in photography and like to photograph surfers in my free time.

This summer, I'm providing general IT support to the EGS team. The scope of my responsibilities goes beyond general "help-desk" tasks. As a team we carry out various technology based projects to further improve the overall tech atmosphere at EGS. A few of the projects I'm currently involved in include; the production and design of three countdown timers to be installed inside of OSB 1, a computer resource monitoring system to better

troubleshoot hardware and software issues, the requirements and design of the new flow room, and a general inventory audit for all IT issued EGS devices. I'm learning project management and the ability to see a project from start to finish. Overall, my first internship has given me the opportunity to gain real-world experience in my field of study.



Kennedy LX Support II interns upon entering OSB 1 for the first time, on day one of the internship.

View the EGS 2017 Year in Review at <https://go.nasa.gov/2C9twKC>.

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