



Women in STEM Q&A

Join us for a Q&A with NASA #WomenInSTEM!
August 26, 4-5 pm EST. on our LinkedIn Company page!

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In honor of Women's Equality Day on August 26, NASA hosted a Q&A on LinkedIn with women engineers and scientists who answered questions about what it's like to work in STEM at NASA. The following is a compilation of questions and answers from the session.

How can men be better allies for #WomenInSTEM?

I know that early on, I felt like I needed "permission" to exist in male-dominated spaces. Having a male ally that can give you an introduction to that new environment and really make you feel welcome can set you up for success. Having allies and mentors that are different from you can help provide varied perspectives to difficult problems. – Mikayla

Studies show that young girls lose interest in STEM around middle school. What is NASA doing to keep future STEM girls involved, and how can the public help?

Mikayla says "I feel like every woman in STEM has at least one story about actively being discouraged from staying in their field. It is an incredibly pervasive problem. Marian Wright Edelman said "you can't be what you can't see." Highlighting women in STEM at all career levels is essential to showing young girls that they can do great things."

In the US (and likely elsewhere in the world) we have a history of discouraging girls and encouraging boys in STEM that plays out in the middle school years. While encouraging the next generation of female scientists and engineers through activities like NASA's local Girls in STEM events, keeping girls motivated to pursue in STEM is a job for all of us. At NASA we have a great platform to inspire but it takes parents, educators, role models, friends and communities too to keep our young girls encouraged. We're all in this together! - Mary Lobo

I'm a recent graduate from New York University with a Bachelors in Physics and English. I spent this last year working for a physics start up but am dreaming of working for NASA someday. I've been applying to jobs in the space industry because I wanted to get more of a feel for what exactly I want to do (mission operations, space science research, astrobiology, etc.) but haven't had much luck -- do you think it's best to get a masters/phd first even though I'm not confident on what I want to focus on? Do you have any other suggestions on how I can get started in the space industry before going back to school?

On getting your masters/phd first: Going into higher education is a big decision. I finished my bachelors in chemistry, went to industry and academia for 2 years before going into the Ph.D. program. For me this was the best decision, because it put me on the path to achieve my dream to come and work for NASA. If you decide to go for your masters or Ph.D. this doesn't eliminate NASA as a potential employer. Through the Pathways Interns Program you can come and work for NASA as a student and when you complete your masters or Ph.D. you have the option of transferring as a full time employee. – Dionne

On getting started in the space industry, Mikayla says "Always great to see another Physics major! Congratulations on graduating. Having an english degree is also awesome- what good is your science if you can't communicate it to others? I would recommend applying to a few NASA internships via intern.nasa.gov. That way you can get a taste for what space science is like before you decide for sure whether it's for you or not. Good luck!"

Women and especially women of color have historically been paid less than their male counterparts in a lot of industries. What would be good advice for students seeking to find their worth and establish a good salary as they secure their first job?

So true- it is an unfortunate reality that all professionals are not judged and rewarded equally based on their work and merit. While the individual themselves may not be able to influence implicit bias that hiring officials and managers may have, it is important to establish your professional resume by doing well in your classes and having well-rounded experiences that can set you apart from others. Ultimately, you have to be your own biggest advocate and get your foot in the door. But once you are there, you have to show your colleagues that you bring value to the organization. In the end, don't sell yourself short though. If companies significantly devalue you at the start, perhaps its not the place you want to be. -Mary

More than being skilled and having the right degrees, what else does NASA look for in a potential candidate to work for them?

Turns out, uncovering the secret laws that govern our universe is just a massive group project. Being a strong team player is essential to working at NASA. It is also important that you demonstrate your ability to "do science." If you are early in your career, presenting your research at conferences and publishing papers can set you ahead of the pack. – Mikayla

Above all else, being able to contribute to teams and effective problem solving are essential skills to have. – Mary

I am a PhD student and researcher interested in projects related to the Human Research Program at NASA. Can you give some advice on the best ways to network with NASA professionals to find the right project/lab fit? What is the process like switching between project groups/locations within NASA? Is there typically a collaborative nature or do most locations act as separate entities depending on the projects of interest?

On your question regarding networking: Find mentors in your field that have a similar story to yours! When you need help, they are often your most valuable asset. Your current mentors have their own connections that they can introduce you to. In terms of making initial connections, I really recommend attending and presenting at national conferences. – Mikayla

There are different ways you can network with NASA professionals: (1) applying for an internship at NASA through interns.nasa.gov. (2) participating of professional conferences. – Dionne

On switching between project groups/locations within NASA:

NASA is open to allowing the employee explore different areas, normally changes occur through job opportunities that are posted in our usajobs.gov website. – Dionne

On the collaborative nature:

There are 10 major NASA field centers and we all have specific areas and competencies that we support. For example at GRC the bulk of our work will be in air-breathing and space propulsion, cryogenic fluids management, power and energy storage, communications, and materials and structures for extreme environments. We work collaboratively to support the missions of the Agency, like the Artemis program, by bringing specific expertise to those programs. – Mary

What is unique about working at NASA as a Women in STEM compared to other Government agencies or private companies?

"I worked in private industry as an applications engineer before starting my career at NASA. When I started in both private industry and government I noticed there were similar trends of having more males in lead engineering positions and in positions of authority. What I have learned to appreciate about NASA in particular is that there is an intentional focus of diversity and inclusion that not all private companies embrace. In more recent months, given the renewed focus on inclusion and fairness that our society has been grappling with, I am encouraged by the efforts many companies have taken to level the playing field for women and underrepresented people in all fields but with STEM in particular." - Mary Lobo

Do you have any advice for women beginning their careers in the STEM fields? Possibly something you wished you had known when you first started?

Mikayla adds: You need to be prepared for pushback. Knowing how to deal with that is a learned skill, just like anything else. Look to your mentors for advice, and don't be afraid to speak up.

Mary's follow up: I wished I had a better sense of what I wanted to do and had looked for a mentor early in my career- someone that could help me answer a few questions about future positions, training I may need, things to consider for career growth. I didn't have much exposure to the possibilities in STEM even up to the point of getting my first engineering job and I believe that it can make a difference in your journey.

Can you work at NASA with a degree in Mathematics?

NASA employees come from a diverse range of backgrounds, and Mathematics is just one of the avenues to a NASA career! It is true that we hire US citizens for civil servant positions. We do have opportunities for international students, and you can learn more here:

<https://www.nasa.gov/stem/international-internships-for-students.html>

What does it take to be successful in a STEM career?

A big part of being successful in a STEM career is finding your spark and holding on to it. For me, that spark is how space brings people together. When you look up at the stars, your problems can seem small, but knowing that we have sent people to the moon together reminds me that together, we can do big things. Holding on to that spark when the going gets tough is often what will keep you in the field! – Mikayla

For me what made me successful was my interest in science, math. Early on participating in STEM activities including conferences and growing my STEM network. – Dionne

I'd say one of the keys of success for anyone in STEM is having confidence that you can achieve your goals. STEM subjects are challenging, the problems are daunting and many times you will not have easy answers. Having internal fortitude to keep trying new techniques and approaches is essential. – Mary

What do you love about working at NASA in a STEM capacity?

I've always known that NASA was going to be a big part of my life, so I love being able to get started on my dream job so early in my career! NASA is the leader in the field of space science. Why settle for anything less than the best? I love that I feel like my work and education are truly valued at NASA, and that I am always free to ask questions. That is what NASA is about- learning together. - Mikayla

What I like most about working at NASA in a STEM capacity is the ability to learn new things. At NASA we are breaking ground and working technologies that for many it may seem impossible. Getting out of my comfort zone is what gets me up every morning and coming to work. – Dionne

Mary says "I can't say that I ever thought I would end up working for NASA, but being here has been an amazing experience. I most appreciate the ability to grow in level of responsibility and in a wide range of fields. For example, I began my career leading test teams in aeronautics facilities, then began managing vacuum chambers (containers that simulate the space environment), honed my skills as a manager of personnel responsible for our testing portfolio, and now I am responsible for technology licensing, and early stage technology development. The diversity of opportunities is like none I have experienced elsewhere."