



# FALL 2020 NEWSLETTER

Without a doubt, it has been a different sort of semester for the Engineering Ambassadors. Due to COVID-19, we were not able to give any presentations or attend any events in person, so we adapted many new ways to stay engaged with each other and with local students in a virtual environment.

Early on in the semester, Engineering Ambassadors successfully onboarded our new cohort of members virtually. Each team of junior ambassadors attended virtual conference sessions throughout two weekends in September, and worked closely with one of our senior ambassadors to develop a presentation and a virtual hands-on. Because these presentations were adapted to be presented virtually from the start, many of these brand new presentations went out on our “school visits” this semester.

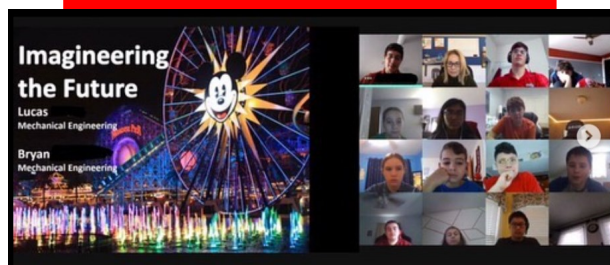
By October, we had also adapted some existing presentations to be presented over video conference. We frequently found interactive online simulations that could be accessed by students, and then developed worksheets to send to the students to guide them through the simulations. Although we did not reach quite as many students as we typically do, the semester was a success given the circumstances! Several local schools arranged virtual presentation sessions with us, and we spread our reach further beyond simply presenting.

One of the key programs of the semester was a series of social programs in conjunction with Rise High. Our ambassadors, along with students from Clarkson University, led a multi-week series of fun activities, such as learning how to juggle, playing virtual chess, and even meme making competitions, to engage students in a virtual setting. Many of our ambassadors also participated in My College Experience events in conjunction with the Admissions office, giving presentations about their majors and their time as an RPI student to hundreds of prospective students from all over the country.

On social media, several EA’s contributed to filming short videos either giving hands-on presentations or insight into being an engineering student, and these videos were posted as a weekly series to the RPIEngAmbassadors YouTube channel. We arranged an Instagram takeover of the RPI Union page in November, posting information about the organization and the application process on an hourly basis throughout the day to garner interest from potential applicants.

This semester, we would like to congratulate three EA’s on their graduation from RPI: Chris, Jess, and Yashna! We would like to thank you for your time and hard work in the organization, and we wish you all the best in the future.

Through all of these endeavors and more, RPI Engineering Ambassadors were able to continue our outreach efforts in earnest despite the global pandemic. We would like to thank our alumni and sponsors for their continued support during this difficult time. We hope that you are all safe and well!



## Fall 2020 Executive Board



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# MEMBER SPOTLIGHT

*Each semester we like to feature a few ambassadors who have been going above and beyond for our organization and in their own career paths. This semester, each EA featured contributed significantly to a new virtual project. Yashna and Sue worked together on a multi-week program that will happen in the near future to teach programming.*



**Yashna Bansal**

**Major:** Mechanical/Electrical Engineering

**Hometown:** San Jose, CA

**Fall 2020 EA Project:** Over the semester, I helped plan out what technical lessons and content we will be including in our virtual Arduino program. I began lesson plans to teach students how to wire and program lights, buttons, potentiometers, display screens, and servo motors using their Arduino kits. By the end of the 6 week program, participating students will be able to apply those different tools to create their own projects.

**Other Involvement:** Outside of Engineering Ambassadors, I also participated in Residential Life, Greek Life, and as a Teaching Assistant.

**Career Updates:** During my time in school, I had internships with Arista Networks, Collins Aerospace, and SpaceX. After graduating this December, I will be joining the Raptor Build Reliability Engineering team at SpaceX for a full-time job.

**Major:** Aeronautical Engineering

**Hometown:** Avon, CT

**Fall 2020 EA Project:** While we shifted to a “new normal” of video calls and masks, I tried to think of how we could use this to our advantage in Engineering Ambassadors. Our mission at its core – to inspire the next generation of engineers – is one that is not limited to in-person school visits. I had the idea to bring the EA experience to the students in a way that was collaborative and engaging – a virtual science fair! The idea was to create a unique experience as it spans over multiple weeks, creating mentorships friendships across the program. The virtual world can be a little lonely, and this program gives kids the opportunity not only to learn about electrical systems but make friends along the way.

**Other Involvement:** Outside of Engineering Ambassadors, I am the President of Red & White, RPI’s student alumni organization that strives to connect current students, alumni, and the Institute. I am also a part of the Rusty Pipes A Capella where I get to sing alongside some of my best friends :)

**Career Updates:** Beyond academics, I’ve had an internship at Collins Aerospace, Boeing Commercial Airplanes, and a co-op on Boeing’s New Mid Market Airplane program in which I had the opportunity to file my first patent application which was a crazy experience in itself! As for what comes next after graduation... stay tuned to find out!



**Sue Cho**



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**Mary Finnerty**

**Major:** Civil/Environmental Engineering

**Hometown:** Aberdeen, NJ

**Fall 2020 EA Project:** I spent this last fall working with Rise High to develop fun and educational activities for middle school students. I led the Engineering Ambassadors's involvement with Rise High's Social Events, which created a variety of fun virtual activities for the students to enjoy including weekly chess lessons and matches, painting lessons, meme competitions, pictionary, and more. I also worked as point person for the team of EAs that helped out with Rise High's Engineering Design Technical Mentoring sessions and used online tools like Tinkercad to teach students about circuits.

**Other Involvement:** I have been involved with other activities outside of EA. I am a member of Engineers for a Sustainable World, for which I served as Vice President of Education in 2018, and I am a member of Chi Epsilon.

**Career Updates:** I interned at TRC during the summer of 2019 and at Gannett Fleming during the fall of 2019. I plan to return to Gannett Fleming over winter break and hope to work in the water/wastewater industry after graduating in the Spring of 2021.

**Major:** Biomedical Engineering

**Hometown:** Barnstable, MA

**Fall 2020 EA Project:** This semester as an Engineering Ambassador, I was involved with the Evolution of Prosthetics presentation and Engineering Design Challenge. This virtual event for elementary students focused on how prosthetic devices have developed across centuries, and where the future of bionics is headed. After presenting this material, I was able to split into breakout groups with 4<sup>th</sup> and 5<sup>th</sup> graders and engage more personally with them to explore the design process applied to biomedical engineering. Working together through our screens, we designed prosthetic fingers out of everyday items like popsicle sticks, straws, and tape, which had joints and were able to bend when we pulled on a string. I am grateful for the opportunity to work with these young minds and show them the possibility of a STEM career.

**Other Involvement:** This semester outside of academics and being in EA, I was a senior physics mentor to freshman Physics 1100 students, where I was able to share insight on RPI as a whole while also helping the students better grasp the physics concepts taught in their lectures. I am also a member of Engineers without Borders at RPI, where we help design solutions for communities in need.

**Career Updates:** Heading into my Arch semester away from RPI's campus, I am looking forward to doing research in the realm of biomechanics, and am hoping to earn a role in a biomedical research and design summer internship. I look forward to continuing my roles with these other involvements and with Engineering Ambassadors as I head into my senior year at RPI!



**Laine Palmer**

# ALUMNI SPOTLIGHT

## Jason Griffith, Class of 2012

Back in October, EA hosted our first ever alumni event starring EA alumni Jason Griffith. Jason Griffith graduated RPI in 2012 with a BS in Aeronautical Engineering and has since worked for Lockheed Martin. He is currently working on the Orion spacecraft in the Artemis Mission, the ship to put the first woman and the next man on the moon by 2024.

During the event, Jason walked through his journey as an engineer and giving advice about how to prepare for a career in human spaceflight. He spoke passionately about the future of the spaceflight revolution and how spaceflight is key to the future of humanity as well; “the idea of humans on Mars seemed extremely far-fetched, but after the talk, it’s no longer just science fiction,” said Shreya Varanasi, a junior Electrical Engineer.

Jason’s talk was very inspiring and enlightening to all the engineering ambassadors in the audience. Everyone was extremely excited after the presentation and were able to ask Jason many questions about career advice, human spaceflight and more. Cameron Smith, a junior Aerospace Engineer, exclaimed, “All of the historical content about human space exploration that was presented was extremely interesting, and the career advice is invaluable for my professional development.

In the future, we would love for more alumni to come back and share their experiences. If you are interested, please contact Elizabeth Herkenham ([herkee2@rpi.edu](mailto:herkee2@rpi.edu)) or Andrew Nguyen ([nguyea4@rpi.edu](mailto:nguyea4@rpi.edu))!



# EA CONFERENCE

*This semester presented a challenge for Engineering Ambassadors, as the annual fall conference at which new ambassadors learn the unique presentation style of the organization had to be conducted entirely on a virtual platform. Two new ambassadors weight in on their conference experiences, and show why the virtual conference was a success!*



**Ilan Pinkus**

**Major:** Mechanical Engineering

**Hometown:** Scottsdale, Arizona

For conference, my partner Laura and I created a presentation about the future of robotic surgery, specifically the DaVinci Surgical System. If you are familiar with virtual reality, the DaVinci system is basically a virtual reality headset with advanced motion controls that connects to an actual robot. The surgeon employs the four robotic arms to perform intricate, minimally invasive surgery. Our presentation gives a brief overview of what the system is and how it is operated before diving into some of the interesting engineering principles.

Overall, the virtual conference experience was very enjoyable. While it wasn't as personal as previous conferences, it was nice to meet Engineering Ambassadors from many different schools. The lessons about the Assertion-Evidence style and presenting in general were extremely helpful and will no doubt benefit my future presentations. One thing that really stood out to me was the participation. Participation is understandably low in our virtual classes, but it was really impressive to see that almost everyone in conference was taking part, answering in chat and engaging in break room conversations. It made me proud to be a part of the EA community.



**Dominique Sullivan**

**Major:** Aerospace Engineering

**Hometown:** Redwood City, California

My partner, Chris Walter, and I decided to make our conference presentation about the different ways that Mars Rovers land safely on the surface after reaching the red planet. We talk about the three different methods that have been used so far, which are parachutes, airbags, and rockets. The PhET Simulations by the University of Colorado at Boulder have been a great resource for allowing the students to do activities online. We were able to find one where the students control the thrust and direction of a lunar lander, which gives them a good sense of what the rocket method of landing would be like.

The conference at the beginning of this semester was very interesting, and a great way to work on our presentation skills. I particularly enjoyed learning about how Assertion-Evidence statements can make such a difference to the learner, especially when paired with interesting graphics.

## THANK YOU TO OUR SPONSORS!

This year has been filled with so much exciting news, despite the challenges of the COVID-19 pandemic. Thanks to everyone who have supported our EA's since day one! Here are some of the organizations and companies that have offered and put their trust in the work of our Ambassadors:

