

ALUMNI NEWSLETTER



RENSELAER POLYTECHNIC INSTITUTE

SPRING 2022

Happy Spring!

We hope this newsletter finds you well. The Spring 2022 semester was another great semester for the organization. As the restrictions from the pandemic have slowly lifted, we have worked hard to really ramp back up. This semester, between school visits and volunteer events, we participated in over 40 events!

The Professional Development (PD) points were an exciting addition this semester. As well as scaling up our outreach, additional emphasis was placed on professional development opportunities within the organization. From continuing the Alumni Series, which provides members the opportunity to learn valuable career lessons from alumni like you, to the new PowerPoint Party presentations where members can practice their presentation skills in a lighthearted environment. The new point requirement has also helped incentivize everyone to take advantage of all the PD opportunities available.

Thankfully, this year we were able to resume our annual Bronx Trip. Thirteen of our members, along with three EAs from Manhattan College, visited Riverside High School, St. Raymond's Boys High School, and St. Raymond's Girls Academy. Over the three visits, we were able to engage with hundreds of students! A couple of them will even be attending RPI next year.

This semester, we had the opportunity to participate in the Engineering Ambassadors Network Professional Development Conference. Seven EAs, including five members of next year's e-board, went to Penn State along with ambassadors from sixteen schools around the country. Our EAs attended workshops on diversity equity & inclusion, leadership lessons, emotional intelligence, short film making, and more!

To end the semester off, we are excited to welcome the largest cohort of new ambassadors ever! 28 new Jr. EAs joined our organization and have already paired up and started creating presentation ideas for the annual conference next year. Finally, 22 of our current members graduated this semester. While we are sad to see them go, we are very excited to see all that the class of 2022 accomplishes and thank them for their dedication and contribution to this organization.



SPRING 2022 EXECUTIVE BOARD



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Cameron
Smith



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Sonu
Chadalavada



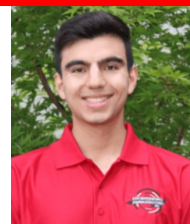
**Outreach
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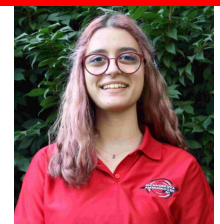
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MEMBERSHIP HIGHLIGHTS

Each semester we like to feature a few ambassadors who have been going above and beyond both for our organization and in their own career paths.

Matthew Chen



Summer 2019, Matt was involved in research RPI's Darrin Fresh Water Institute at Lake George and raised 485 snails

Major: Mechanical Engineering

Hometown: Ringgold, GA

Presentations: Water Filtration, Mars Exploration, Getting into Orbit, Chemical Engineering Processes, Rise High Space, Electric Grids

Internships: During the summer of 2019, I interned at the Darrin Fresh Water Institute where I worked alongside ecologists and biologists to research the effects of climate change and the changing environment on freshwater environments of Lake George, NY. Between Fall 2020 and Spring 2021 I co-oped at ATI Industrial Automation to innovate on robotic deburring devices.

Other involvements at RPI: I was very fortunate to work with Glenn Saunders at the Manufacturing Innovation Center at RPI to develop water testing platforms to research the human impacts on aquatic ecosystems around the world. I'm also a room manager at The Forge @ RPI, where I have the pleasure of working with other RPI students regardless of discipline and major to develop and create their class or personal projects; through 3D-printing, laser cutting, and circuit soldering.

Favorite part of EA: Working with and hanging out with other EAs in the office has cultivated friendships that I will cherish for a lifetime. Those in EA will go above and beyond to help with developing a new EA presentation to helping with a capstone project.

After RPI: Working for The Boeing Company in Seattle, WA



Major/Minor: Biomedical Engineering/Studio Art

Hometown: Brewster, NY

Presentations: ECGs, GPS, Physics of Parachutes, Nanofluidics, GMOs, Evolution of Prosthetics

Research at RPI: This past semester I had the opportunity to participate in research in the materials engineering department with Dr. Palermo. The project is focused on creating a polymer coating using curcumin, a chemical found in turmeric, for biomedical implants that will help paralyzed veterans.

Other involvements at RPI: At RPI, I also work with the Science and Technology Entry Program (STEP) as a student teacher where we develop and present STEM based lessons to middle and high school kids. This past semester I made and presented a lesson I designed based on a NYTimes article about combining art and science.

Favorite Part of EA: My favorite program I've participated in is volunteering at the Troy Boys and Girls Club! I love being able to work with the same kids each week, getting to know them and their interests. Seeing their enthusiasm and curiosity is what inspires me to keep sharing my

Italia Vitella



At 3 years old, Italia learned that Pluto was declassified as a planet & she wanted to build a spaceship & go to Pluto and see for herself. That was the beginning of her dream to be an aerospace engineer.

MEMBERSHIP HIGHLIGHTS

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Sarah Burrows



Runnerup in this year's
assassin competition!!

Major: Aeronautical Engineering

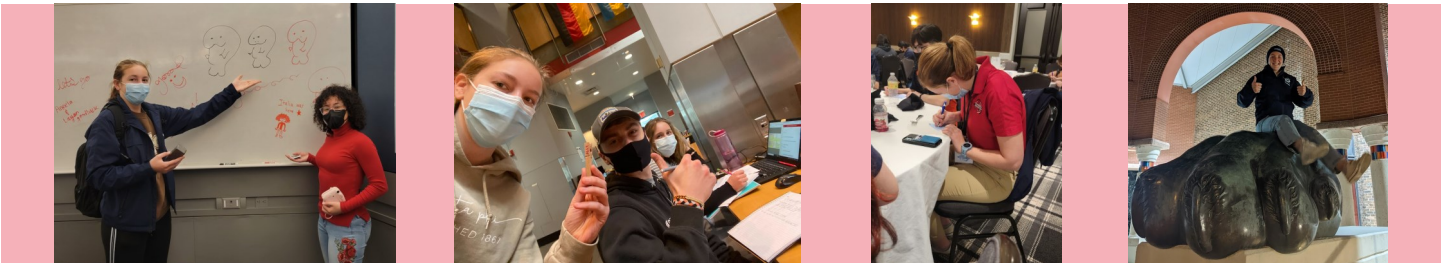
Hometown: Virginia Beach, VA

Presentations: Hydrodynamics of Dolphin, GPS, Newton's Laws

Internships: Last summer I received the opportunity to facilitate a summer academy for Virginia Aerospace Science and Technology Scholars alongside NASA Langley. I was able to work with 120 high school students to help them accomplish their goal of designing a full-fledged mission to Mars. This summer, I will be working with the Naval Research Laboratory as a research assistant learning about hypersonic flow modeling.

Other involvements at RPI: I play the tenor saxophone, allowing me to participate in a lot of jam groups frequently around campus. I manage an additional group called "Contemporary Jazz Ensemble" where we focus on primarily funk music. In addition to this, I am involved in the Rensselaer Astrophysical Society as the webmaster, as well as a member of the club swim team.

Favorite part of EA: My favorite part of EA is primarily the people I have met and the sense of community! I love being able to work alongside some of the best and brightest of RPI's engineers in order to inspire younger generations of students. I have never met a group with more authenticity and passion than that of EA.



Congratulations to our Linchpin Awardees!



Christina
Rogers



Matthew
Chen



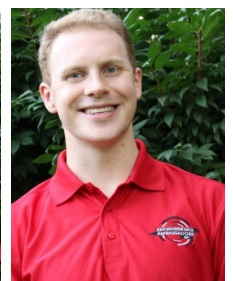
Aidan
Glennon



Jaclyn
Higgins



Chris
Walter



Matthew
Fox

EA SPRING NEWS

In addition to the frequent school visits and volunteer events that fill the EA calendar, several new programs have been founded in recent years to continue expanding our outreach efforts.

Professor Fotis Kopsaftopoulos— Intelligent Structural Systems Laboratory (ISSL), Empire State Aeroscience Museum / EA Partnership: One program that is currently in development is a joint effort between Engineering Ambassadors, Professor Fotis Kopsaftopoulos and the Intelligent Structural Systems Laboratory (ISSL), and the Empire State Aerosciences Museum (ESAM). Currently, the ESAM has some educational programs that it offers to elementary and early middle school students to teach them about aviation history and some fundamental concepts of the aeronautical industry. They also have an airpark with twenty full-scale aircraft that have been restored by volunteers so visitors can see the variety in types of aircraft. Very cool!

To further inspire and excite these students about this field, our EAs identified an opportunity to develop modules to deliver alongside ESAM volunteers. The first module, General Aircraft Design, will allow them to experiment with plug-and-play aircraft models designed and 3-D printed by EAs. This hands-on activity will help reinforce the concepts that they will learn about how an aircraft's shape affects its flight performance. EA plans to share during a summer Saturday AM program this July, 2022. More to come...



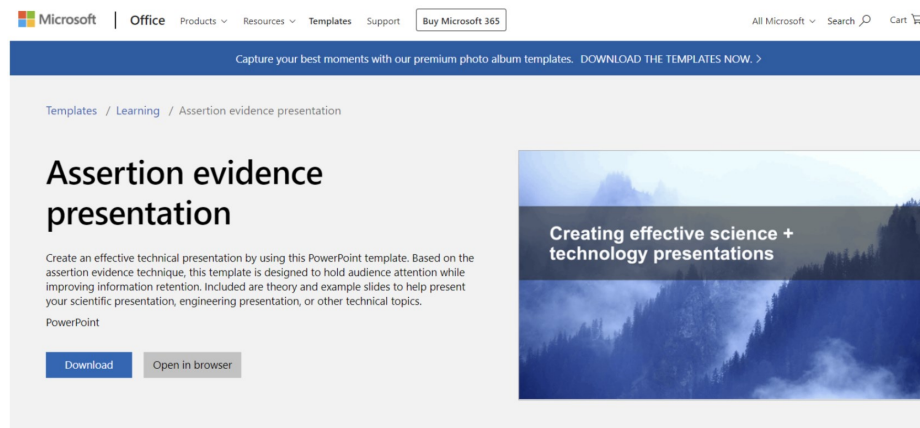
How Cells Push and Pull Module

Dr. Kristen Mills Research Lab / EA Partnership was spearheaded by graduate EA Christina Rogers while working within Dr. Mills lab on Tissue Mechanics and Disease. The outreach program engage students on the topic of cell and tissue biomechanics. Cell and tissue biomechanics is the study of the mechanical properties of cells and tissues and how those properties relate to cell and tissue function. Discoveries in this important field have led scientists and physicians to understand the link between a tissue or organ's mechanical properties (e.g., stiffness) and its health. This program consists of three modules with a presentation that is designed to engage the students and a hands-on activity to reinforce the material in a fun way. The first module (Tissues and Their Mechanics) provides the students with a strong foundation on a basic descriptor of mechanical properties—stiffness—and how it's related to tissue function. The second module (How Cells Push and Pull) introduces the main components of tissues, cells and extracellular matrix, and focuses on how a cell interacts with the extracellular matrix. The third module (Studying Mechanics and Your Health) builds on the student's understanding of the first two modules and the organization of cells in healthy and diseased tissues is discussed with respect to the known changes in the mechanical properties of the diseased tissue. Students will be able to see how a stiffer extracellular matrix, which develops in diseases such as cancer, will affect the behavior of cells. The modules were piloted at a local all-girls high school and were well received.

EA SPRING NEWS

Some exciting news has come to the attention of the Engineering Ambassador Network this semester! Microsoft adopted an assertion-evidence template in PowerPoint on April 11, 2022. The assertion evidence presentation style was designed by Michael Alley at Penn State as an improved method of presenting in the fields of science and engineering. It is now used by Engineering Ambassadors across the country.

An assertion evidence presentation focuses on messages supported by images, opposed to topics supported by bulleted text, to maximize the readers' engagement. This presentation style is proven to be more comprehensible for an audience and projects more confidence from speakers. It's great to see this style of presentation be adapted by such a popular platform. We are excited to see how PowerPoint's defaults will continue to improve over the upcoming years!




Call for Volunteers!


As we are continuing to grow and develop this organization, greater emphasis is being placed on professional development opportunities for all members. The Alumni Series is an opportunity for EA alumni to share their professional journey with current members and answer questions. It has been tremendously valuable and we would appreciate any volunteers who are willing to share their story and offer advice. Additionally, we are planning a DEI panel where EA alumni can share their experiences relating to diversity, equity, and inclusion as it relates to outreach and entering the corporate realm. If this is a topic you have experience with or feel passionately about, we would love to hear from you.

If you are interested in volunteering for either the Alumni Series or the DEI Panel, please reach out to rpiengineeringambassadors@gmail.com

Keep up with us on our social media platforms!

Instagram  : @rpi_ea

YouTube  : RPIEngAmbassadors

Facebook  : /RPIEngineeringAmbassadors

Elizabeth Herkenham is retiring

Her last day is June 30th. Thank you Elizabeth for all the support you haven given us since the beginning We will miss you and hope you have a relaxing and fun retirement!



ALUMNI UPDATES

Sarah Morgan

Background: I majored in Chemical Engineering Class of 2019. I was mainly a member of the EA's and the RPI Women's Cross Country/ Track and Field Team.

After graduating from RPI I started my career at Duracell in their research and development department. In my first year, I was in a process development role that enabled me to gain experience in both R&D and manufacturing. I then shifted into a product engineer role with a focus on materials and currently design. I have had the opportunity to work on global teams, cross functional teams and with outside companies. Over the last almost three years Duracell has enabled me to broaden my technical learning and advance my career! I am grateful that I was a member of the Engineering Ambassadors as I improved my communication skills and confidence in public speaking, both of which have been crucial to my professional development.

On a personal note, I am so excited to say that I will be running the Marine Corps Marathon in October 2022. I have joined a fundraising team through Semper K9, an organization that rescues dogs and trains them to assist veterans in need. I am very grateful to have the opportunity to raise money for a great cause.



Jeffrey Morton



Background: Jeffrey graduated from RPI in December of 2014 with his BS and MEng in Mechanical Engineering. He was active with Engineering Ambassadors from its start at RPI in the spring of 2011 through graduation in 2014. He helped develop the E-board structure while serving as the first EA president, and developed the initial Future of Light presentation and hands on activities. Besides EA, Jeffrey was very involved with UPAC lights and was a student worker at EMPAC.

Upon graduating from RPI, I moved to Connecticut to work for Pratt and Whitney in Hot Section Engineering as a design engineer. I spent the first 3 years in HSE's rotation program working on all part families across the hot section of gas turbine engines on a variety of commercial and military engines. More recently I have focused on the design of turbine airfoils supporting everything from clean sheet design to support of fielded products and am an integrated product team leader. I have also served as the EA alumni lead at PW for the past few years and work with the RTX Engineering Ambassador Council.

A little over a year ago I finished my MBA through an online program WPI ran for UTC (& RTX since the merger) employees. When I am not at work, I continue to enjoy woodworking and repairing antique clocks. I also enjoy traveling with my wife Rebecca; in January we visited Hawaii for our delayed honeymoon after getting married in June of 2020 in a small backyard ceremony and celebrating our first anniversary with a larger group of family and friends at Lake George in 2021.



Rensselaer

Feeling Generous?

Simply Call RenXchange at 518-276-6055 and ask to donate to the Engineering Ambassadors fund directly. Engineering ambassadors is always willing to accept donations to help continue bringing the inspiring field of STEM to the youth.

OUR SUPPORTERS

Thank you to everyone who has supported our Engineering Ambassadors since day one. We are extremely grateful to all who have played a part in making our work possible over the past year. Here are some of the organizations and companies that have supported our program, collaborated with us, and that RPI Engineering Ambassadors have gone on to work for. We can't wait to see what opportunities the next year brings!

Boston Scientific
Advancing science for life™

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LABORATORY

 GE Aviation

 **BOEING**

 **DANBURY**

 **Collins Aerospace**

MITRE

CH2M

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sabik



Raytheon Technologies

Stewart's Shops

 **DANAHER**

Trinity
Consultants



moderna

RAYMOND

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