



Rensselaer

UGED BUZZ

Fall 2021



Undergraduate Research

Undergraduate Research Program Update

Rensselaer's Undergraduate Research Program (**URP**) provides real-world, hands-on research experience and is available to undergrad students in all five schools. This unique program offers the opportunity to work directly with a faculty member on a bona fide research project while earning course credit or as a paid research assistant. Over 400 undergrads participate in the URP during the academic terms.

Recent examples of projects students were involved in during the spring 2021 semester include:

- Studies of the Mechanism of the Light-Driven Water Oxidation Reactions of Photosynthesis in Photosystem II Protein Purification and Structural Study
- Superstable Proteins in Nuts
- Biometric Signal Processing for Circadian Rhythm Monitoring
- Impedance Characterization of Converter-Grid Systems for Renewable Generation

Spring 2021 Academic Citations

In response to a recommendation of the Faculty Senate, a system of Academic Citations was established to recognize that occasionally a student is so outstanding that an "A" is simply not a sufficient reward. A citation is intended to provide special recognition for that rare situation in which a student singularly distinguishes her/himself in a course and may be recommended by the instructor to the Dean of Undergraduate Education. During spring 2021, 4 students were recognized for extraordinary efforts in their course. Congratulations to the following students:

- **Caterina Guozden**
- **Tanner Vargas**
- **Madeline MacDonald**
- **Abraham Wei**

12th Annual Undergraduate Research Symposium (UGRS)

Due to Covid-19 restrictions, the 12th Annual Undergraduate Research Symposium (UGRS) was held virtually on April 14, 2021. The Office of Undergraduate Education was pleased to award the following students in each category:

- First Place to **Samuel Chen**, Best Oral Presentation in Biological & Applied Systems Category. Research project title: Analysis of Matrix-dependent Traction Force and Stress Generation with Traction Force Microscopy.
- First place to **Jenn Gregg**, Best Oral Presentation in the Computational & Physical Sciences Category. Research project title: Transition Metal Catalysts for Water Oxidation.
- First place to **Nicole Leonick, Sarah Ahn, Shivani Rao, Yu Shen, Maya Kessler, Emily Hu**, Best Oral Presentation in the Society, Science and Technology category. Research project title: Assessing the Driving Factors Impacting the United States Opioid Epidemic: A Multidisciplinary Approach.
- Honorable mentions were presented to the following students: **Madeline Brannon, Yue Chen, Matthew Christoff, Sam Cohen, Elijah Gruszecki, Savant Liu, Xavier Marshall and Xingyu Wang.**

Congratulations to every student who participated in the Twelfth Annual Undergraduate Research Symposium. OUE also thanks the faculty who assisted with the judging of each session. Dr. Christopher Bystroff, Dr. Asish Ghosh, Dr. Michael Hanna, Dr. Hisham Mohamad, Dr. Christopher Sims, Dr. Christopher Tozzi.

Undergraduate Research, *continued*

Summer 2021 Undergraduate Research Program (SURP)

Full Time Undergraduate Research is available to students during the summer months. This program offers students the opportunity to become immersed in a research topic full-time for a ten-week period. Awardees will receive a \$5,000 stipend. Congratulations to this year's winners!

- **Leslie Aleman**, Aeronautical Engineering
- **Aneela Alex**, Aeronautical Engineering
- **Samuel Chen**, Mechanical Engineering
- **Shayom Debopadhaya**, School of Science
- **Maryellen Marino**, Computer Science & Mathematics

Teaching and Learning Collaboratory

2021 Colloquium – Talking About Teaching *Creating Inclusive Classrooms at RPI*

The Teaching and Learning Collaboratory and the School of Humanities, Arts, and Social Sciences are very pleased to report that for the Spring 2021 term, our colloquium was offered as a virtual experience which focused on creating inclusive classrooms. Several sessions were presented from January to April with engaged participation. The sessions available were:

- **What “works” for Rensselaer Students?**
Susan L. Smith
- **Cultivating an inclusive classroom by using a trauma-informed approach**
Alicia Walf
- **Deep Listening as Method**
Stephanie Loveless
- **Empathy, Environment, & Engagement (Eliminating Exclusion)**
Miciah Yehudah
- **Issues Facing LGBTQ+ Students in the Classroom**
Lee Ligon
- **Disability/Neural Diversity**
Jaqualyn Iardella & Keith Anderson
- **Women in Stem**
Jennifer Pazour & Helen Zha

A huge thank you to all of our internal presenters that took their time to share on these important topics they are passionate about!

**2021 Colloquium
Session
Recordings
Available**

Each of the 2021 creating inclusive classrooms colloquium sessions were recorded and are available to watch. To access these recordings, visit:

[Teaching and Learning Colloquium Plenary Recordings](#)

*Once at this page, expand the **2021 Teaching and Learning Colloquium** section.*

The Arch – Academics

The Arch Academic Programs in the Office of Undergraduate Education supported over 500 students for the spring 2021 away semester experience in the areas of: ILE Self Design, ILE Research and ILE Study at Another Institution. Despite the challenges of the pandemic, students persevered, and made significant strides during their away semester. Some of the experiences across the categories include:

- Game development on topics related to environmental concerns
- Computation, analysis and visualization of 3D stress and strain fields around cancer tissues
- Computational physics project that will investigate the isotope mass effect in oxygen diffusion in calcite
- Using meta learning to identify object that the robot needs to grasp
- Unity programming for development of drone-piloting simulator

For summer 2021, we welcomed our 3rd cohort of Arch students (934 students) to the Arch summer program. With marked sensitivity to Covid restrictions, students participated in both in-person and virtual learning experiences. Overall, students excelled in their courses during the summer sessions. We are appreciative for the dedication of the faculty and staff for all they did to provide a quality learning experience for our students.

In addition to the students who took summer classes, we supported another group of students (approx. 200) who secured internships/co-ops during the summer term, thus enhancing their professional and educational experiences. There was a small group of students (approx. 20) who also participated in research and self-designed experiences.

All in all, spring 2021 and summer 2021 for the Arch, shaped up to be a positive learning experience for students, faculty and staff alike. We are enthusiastically looking forward to providing continued support and learning opportunities during the fall/spring semesters.

For additional information on the Arch programs and provided support, visit: <https://info.rpi.edu/the-arch>

Advising and Learning Assistance Center (ALAC) Provides Support for Student Athletes

With the retirement of Robert Conway, the Athletic Advisor, there wasn't anyone from athletics or ALAC that were assigned to assist student athletes with their day to day academics. Bob did a great job in coordinating study halls for coaches and students to ensure that our student athletes were successful both on the field as well as in the classroom. In the interim of hiring a full time athletic advisor, ALAC was allowed to hire 5 co-term students to help student athletes stay on track. These graduate students are ALAC mentor/tutors who can help students in their beginning STEM classes and their time management skills. Many of the co-term students were varsity athletes themselves so they know the challenges first and second year students face. All of the ALAC mentors/tutors have both WebEx hours and in-person office hours in ECAV. This allows for both the athlete and ALAC mentor to meet online or have a face to face meeting after practice.

Please view [ALAC Mentors and Tutors](#) for a list of names and office hours.

**Thank You
Students!**

A big thank you to all of the students who completed their Spring and Summer 2021 end of term course evaluations. We received a response rate of 52% for the Spring and an average of 39% for the summer terms which is an increase with our new tool - AEFIS. Your feedback is valuable and contributes to the improvement and success of our programs.

Office of International Programs

The Rensselaer study abroad program has been on hold since the pandemic hit in the spring of 2020. But in fall 2021, undergraduate student Yinxiao Zhang, MECH/AERO 2022, had the unique opportunity to participate in a study abroad program in his hometown of Ningbo, China. Yinxiao spent a semester at the University of Nottingham (UK) Ningbo campus (UNNC). The Office of International Programs recently caught up with Yinxiao to learn more about his experience at UNNC. (The following excerpt has been edited for length and clarity).

OIP - What was it like to participate in a study abroad program in your home country?

Yinxiao - It was quite a special experience to “study abroad” in my home country. Unlike other universities in China, the University of Nottingham, Ningbo is an entirely English-speaking environment, requiring both faculty and students to speak English. This is highly demanding to native-Chinese professors who were educated in the Chinese university system. The professors were very hardworking and dedicated to teaching their students, but there were some language barriers when it came to explaining certain academic terms. Interestingly, unlike at U.S. colleges, professors at UNNC always share offices with other faculty in the same discipline, and I was able to receive academic guidance from any professor in the office.

The International Students’ Office arranged a lot of activities related to Chinese history and culture. It was quite a special experience as a native student to be treated as warmly as the international students. UNNC offers a tremendous number and variety of clubs. It was very interesting to see sports and hobbies that are popular in the U.S. from the perspective of Chinese culture.



OIP - Academically, what did you gain from the program?

Yinxiao - UNNC is regarded as the second-best college in Zhejiang Province, China. It is a college with only 8,000 students, smaller than RPI, but with brand new equipment and facilities. The students are highly selective, and compared to RPI students, they have a broader knowledge in all areas as the outcome of Chinese comprehensive high school education. The friends that I made in Industrial Design applied knowledge from different academic areas with the goal of not simply producing functional products, but more importantly of allowing the ideology of their personal interest to be presented in different forms. This gave me a new perspective on my current designing courses at RPI, where I now put more emphasis on the aesthetic rather than simply designing a workable machine.

OIP - What is your perspective on having had an in-person learning experience at a time when so many of your peers were studying remotely?

Yinxiao - I was almost at my limit of remote studying when I decided to pursue this program. Being in person was definitely far more motivating than studying remotely. Facing the professors and other students in person is an important part of the learning process.

Being in person pushed me back into regular college life, and as my social life came back I was able to make meaningful connections. I was also able to gain research experience in a fluid dynamics lab, which would have been very difficult to do online. I really appreciate that I was able to have this experience during the pandemic, and I hope that other Rensselaer students will be able to participate in this program.

Photo credits: Yinxiao Zhang, taken at the University of Nottingham, Ningbo, China. For more information on the program, visit the UNNC website, [here](#).

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