

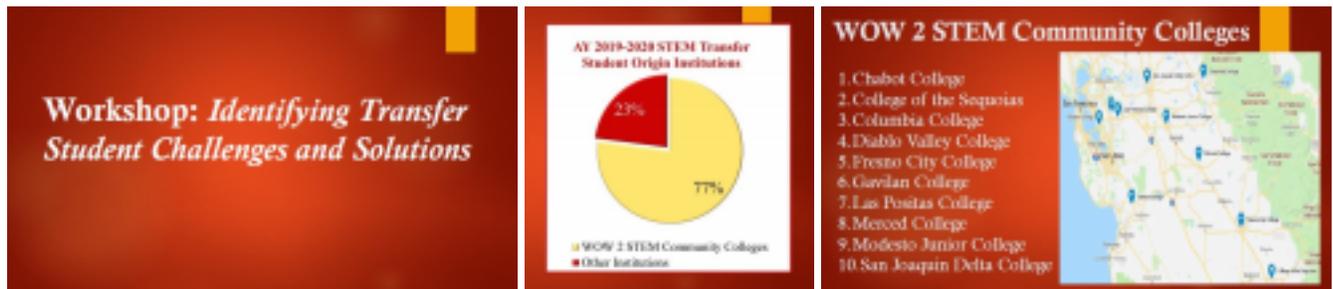
# Spring 2021 STEM Success Newsletter

## Students Transitioning to Engaged and Motivated Success



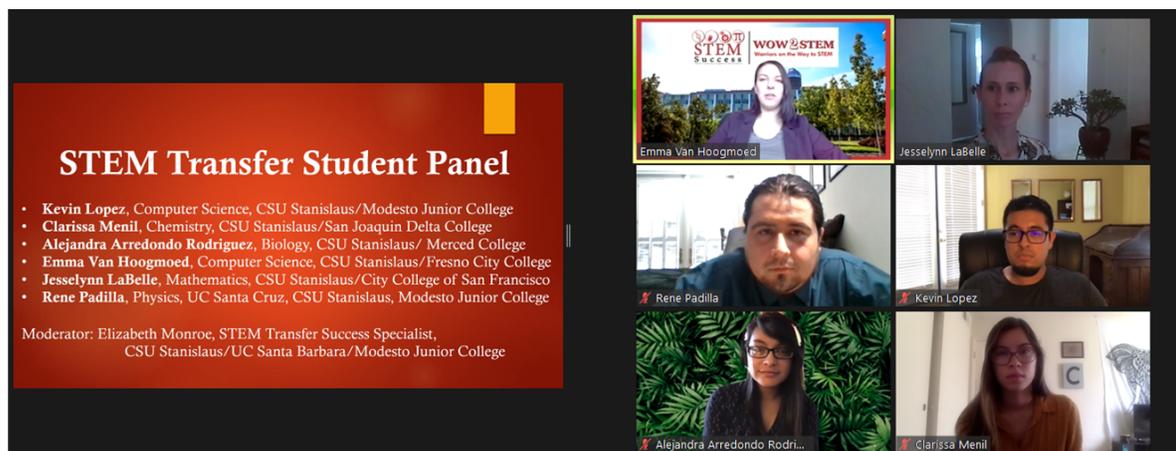
STEM Success Logo

### STEM Success Summit



Slides from the presentation Identifying Transfer Student Challenges and Solutions

Our WOW2STEM team hosted the 3rd Annual STEM Success Summit on October 12th. The summit was held virtually on zoom and we welcomed 26 faculty and staff from 6 of our partner community colleges. We had representation from Merced, Gavilan, Modesto, Las Positas, and Fresno. These participants collaborated with staff and colleagues from CSU Stanislaus to discuss some of the obstacles for transfer students and how we can work together to overcome them. This year the focus was on challenges related to COVID and virtual learning. We heard a lot of insight on how faculty are adapting to online teaching and how students are adjusting and responding to those changes.



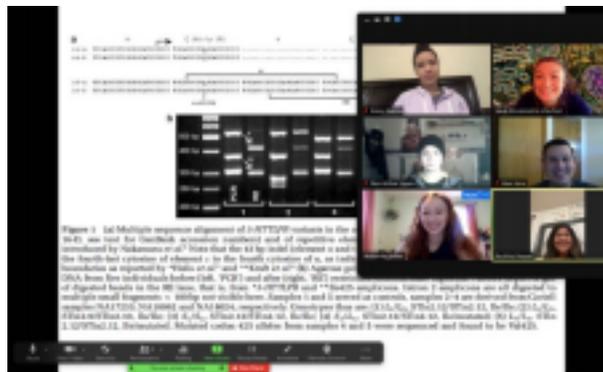
Screenshot from Transfer Student Panel during the Summit through Zoom

## RISE Research

Even though most of our RISE research is being conducted remotely, there is still a lot of interest in our RISE program. We matched up 13 faculty mentors with 39 undergraduate student researchers. Our students have been participating in our monthly meetings and even did some flash talks about their research projects and their experiences at online conferences.

### Dr. Bissonnette's Research

Dr. Bissonnette's RISE students are investigating the relationship between the specific version(s) of a serotonin transporter gene that an individual carries and that individual's attachment style. This is a collaborative project with Dr. Victor Luevano's group in the Department of Psychology. Once COVID restrictions have been lifted, her students will isolate DNA and genotype from about 200 participants in this study. While COVID restrictions have been in place, her research group has been busy reading and presenting scientific papers, learning to use DNA alignment and manipulation tools, and learning as much as possible about the multi-plex PCR strategy they will employ to determine the serotonin transporter genotypes of study participants.



A zoom research meeting with Dr. Bissonnette's research team.

### Dr. Koh's Lab

Lizbeth Solis is a student research assistant in Dr. Koh's lab. She is looking into Learning Assessments and how they can improve early Computer Science education through immediate feedback for teachers, so they can help students when they are struggling. Her project analyzes Scalable Game Design which was created at University of Colorado. This project introduced a Game Design class into middle schools, in which the students could design their own games and simulations. The teachers gained access to a Learning Assessment tool which would provide them with immediate feedback about the progress of their students. Whenever they would notice a student falling behind, they could help them. The results were positive, with many students claiming that they would like to take another Game Design Class, and teachers admitting that they would use the tools in future classes.



Picture of Lizbeth Solis

Student quote: “RISE has been a great opportunity for me to get immersed into doing research, and it has connected me with a great network of people.”—Lizbeth Solis, Junior, Computer Science Major

## Conferences

COVID-19 travel restrictions have changed the conference experiences our students participate in. Luckily, many conferences have adapted to a virtual format so our students can still present their research and make connections with others in their field.

Dr. Andrew Gardner’s research team participated in their first virtual conference in August 2020. Their team recorded and presented a 3 minute talk on “Plant Diversity at Stan State”. They were able to view and attend other lightning talks and workshops from the comfort of their own home.

## STEM Discovery Academy

This year we expanded our summer STEM Discovery Academy into the Fall 2020 semester. We incorporated four different activities with faculty from various disciplines. These additional activities allowed the students to spend an extra hour with faculty and provided great opportunities to interact outside of the classroom environment.



A map of California waterways.

## Climate Change Podcast

Dr. Wing To facilitated a discussion on climate change. The discussion was based on a Science Vs Podcast episode called “Climate change ... the Apocalypse” and a YouTube video

on “Path dependence and Tipping Points”. These inspired students to talk about climate change but also science communication.

### California Waterways Tour

Dr. Horacio Ferriz took our students on a virtual tour of California Waterways. We learned all about the topography of our state and how it helps us get our water from one area to another. He also discussed the history of how the waterways came to be and why.

### TED Talk

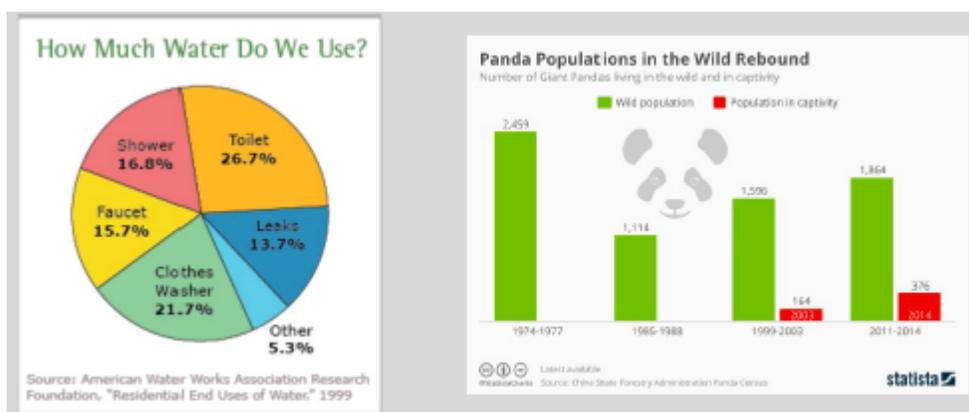
One of the popular activities during summer was the Ted Talk discussions so Dr. Jim Youngblom hosted another TED Talk discussion on “My Stroke of Insight” by Jill Bolte Taylor. Students from all STEM disciplines discussed and debated some theories on brain science.

### Foldscope Activity

To help increase the hands on activities at home, Dr. Jamila Newton hosted a foldscope activity. Dr. Newton helped our students learn how to put together paper microscopes called foldscopes. Students were encouraged to use their new microscopy tools to take pictures for our very first STEM Success microscope picture contest.

### NSCI 1000

In the Fall, STEM Success offers a course for incoming students called NSCI 1000. This course is designed to help new students become more comfortable with research. Puneeta Salhan, a Mathematics and Business Administration major, said the course affected her “in a positive way by making [her] develop a stronger interest” in research. NSCI 1000’s other goal is to increase the sense of belonging. Students work in groups to build connections and learn as a team. Julian Bedolla, a Computer Science major, feels the course helped him “bond with his group” and “stop having imposter syndrome.” This connection with fellow students and familiarity with research will hopefully keep these students engaged in their STEM majors.



A sample of the research the students learned about in NSCI 1000



Picture of Arlena Gavino

Peer Mentor Quote: “Being a STEM Peer Mentor for NSCI 1000 was a motivating experience. I was able to interact with many talented students and help them learn good practices of conducting research ... Everyone in that class has so much promise, I can't wait to see what they do in the future!” - Arlena Gavino, STEM Peer Mentor for NSCI 1000

## Faculty Spotlight



Picture of Dr. JungHa An\_\_\_

### Meet Dr. JungHa An!

STEM Success has the great pleasure of working with Dr. JungHa An in many capacities. Dr. An developed the curriculum for our NSCI 1000 course which helps students with scientific writing and research in their first semester at CSU Stanislaus. As a WOW2STEM faculty she helps reach out to transfer students who are math majors. Dr. An is also a RISE faculty mentor for undergraduate students. Her RISE students study mathematical modeling in a variety of subjects and have even gone on to win first place in the Stanislaus State Annual Student Research Competition in 2020. This past summer she developed 2 math activities for our virtual SDA to help meet and engage with students before their first semester.

Dr. An has this to say about herself: “I am originally from South Korea and came to America to study applied mathematics in 1999. I received my Ph.D. from the University of Florida with a specialty on medical imaging. Then I did a post-doctoral training at the Institute for Mathematics and Its Applications in the University of Minnesota. I enjoy researching on mathematical modeling with an application to real-life. My passions are education, research with undergraduates, and helping people/societies using mathematics.

I introduce myself 3M:

+M: Mathematics - enjoy living in infinite world

+M: Music - another universal language and enjoy listening to music during studying, working, driving, ...etc (basically anytime!)

+M: Matthew - my son who is constantly teaching me to be a better mom for him and about what is unconditional love.”

Student Quote: “She has so much motivating, positive energy that made this experience so pleasant.” -Arlena Gavino, STEM Peer Mentor for NSCI 1000

### Connect with STEM Success

You can now find us on YouTube: <https://tinyurl.com/STEMsuccessYoutube>

In an effort to connect and provide information using the tools and technology that we have available, we have started a YouTube channel. Please like and subscribe.

For more information on the summit visit [www.csustan.edu/STEM-success/wow-2-stem/summit](http://www.csustan.edu/STEM-success/wow-2-stem/summit)

Visit our webpage: [www.csustan.edu/stem-success](http://www.csustan.edu/stem-success)

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