CURC

Center for Undergraduate Research and Creativity

Florida SouthWestern State College

NEWSLETTER

Issue 1 December 2023

Message from the Director

Dr. Wendy Chase- Director

What a relief it was to enjoy our first Fall semester in three years that was not interrupted by a local or global catastrophe! Although still in our infancy, the Center for Undergraduate Research and Creativity partnered with a variety of our colleagues to host a handful of inspiring and well-attended events.

Working in conjunction with Dr. Jett and the One Theme One College committee, we brought Dr. Catherine Sanderson to campus to kick off our investigation of "The Pursuit of Happiness" with a funny and profound lecture on The Science of Happiness. Over 200 students, staff, and faculty attended this event, and the Q&A that followed was engaging and opened up new avenues of thought that we hope to explore in the spring. The week after Dr. Sanderson's lecture, we hosted our first Fall Faculty Symposium, showcasing a wide range of research and creative projects produced by our faculty. We increased the attendance at the ARC grant presentations by 200%, introduced a new platform of speed talks that allowed other professors to provide us with a thumbnail sketch of their current projects, and ended the day with a fantastic talking circle on the theme of happiness.

I would like to thank Dr. Allbritten and Dr. Bilsky for sponsoring the symposium and providing wine and cheese to make the event more celebratory and allow time for attendees to connect in a more informal way.

In November, CURC partnered with Michael Messina during International Education Week to co-sponsor the first International Photo Competition and co-host student presentations focused on research completed during the summer 2023 study abroad courses. The projects ranged from using the McKinnon's List methodology to document biodiversity among reptiles and amphibians in Costa Rica, to a comparative culinary analysis of Italian food in Ft. Myers and Florence, to a multi-media art installation inspired by two students' experiences in France. There is nothing more exciting than watching our students make the shift from passive learners to active contributors to our knowledge base and aesthetic experience, and it was exciting to watch the students speak with mastery and enthusiasm on their chosen topics.

We will be launching an Undergraduate Research Toolkit on Canvas when we return in January and hope to have the CURC website up and running soon as well, so keep your eyes peeled for our announcements in the spring. Please keep reading to learn more about Professor Donini's Herpeton Conference, our faculty and student spotlights, and field trips the Honors Scholar Program has hosted this semester.

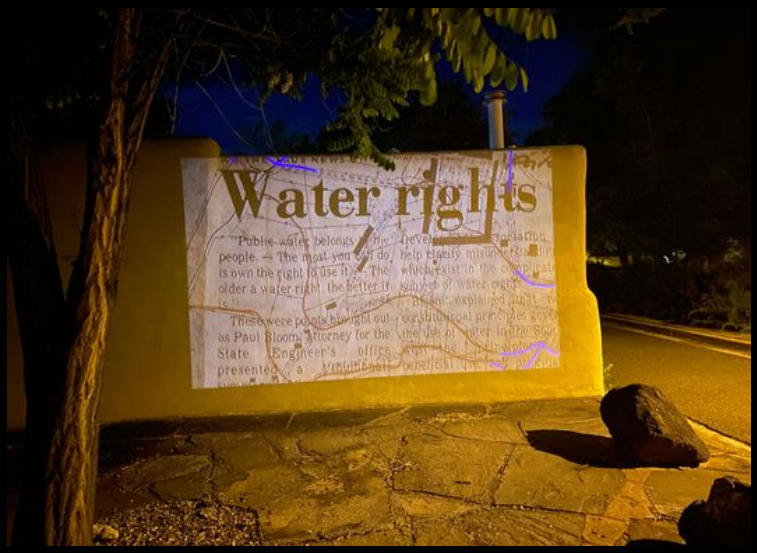
Many thanks to the faculty members who serve on the CURC Task Force and the Honors Advisory Council for their dedication academic excellence. Special thanks to Courtney Daniels, our Program Coordinator, and Rachelle Charleston, our student assistant, for their tireless efforts to help organize, market, and host all of these events. Wishing all of you a relaxing and festive holiday season and I look forward to more exciting research-related activities in the spring.

Faculty Spotlight

Ruben Olguin

How did you end up becoming a professor? Was this always your professional aspiration or did you follow a more circuitous path?

When I started college I had some idea of where I wanted to go, but not exactly where I would end up. I knew I liked art and I knew I liked technology, my path kind of followed my interests. I spent about 8 years doing graphics, video, audio, and 3D animation professionally before I ended up in Graduate School. I made a pact with myself in middle school that I would be a "Master of Fine Art" by the time I was 30. so when I was 28, I saw the clock ticking and applied to Grad Schools. My program was a 3-year program which I really liked, despite being more expensive. I felt that to truly develop my skills and knowledge I needed that time. During Grad School, I was a Teaching Assistant and taught the Intro to Electronic Art Course at the University of New Mexico. Also during school, I learned how much my art practice involved community outreach and knowledge sharing. I found I really enjoyed teaching and lecturing, so I moved into being a Professor and a Fine Artist making experimental digital art and sharing my knowledge and passion with others.



What is one thing about your field of expertise that you wish everyone could know and understand?

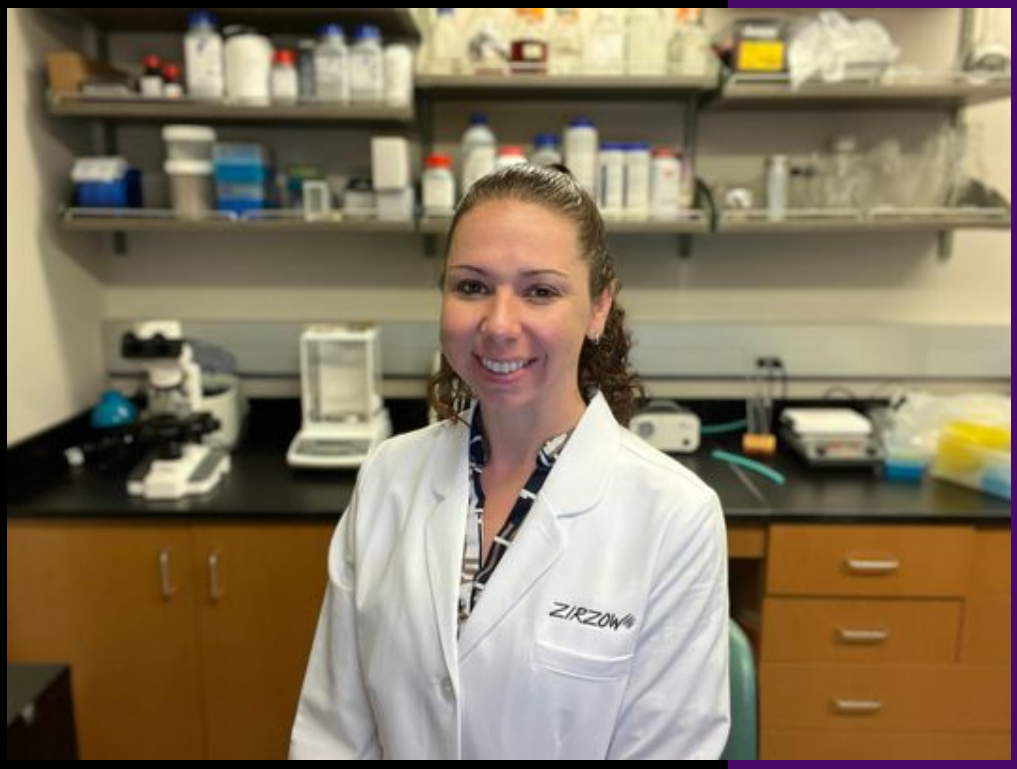
I wish people understood how much time and practice it takes to get good at it. A common misconception is that computers do all the work and the process is more or less automated. It takes a lot of time and experience to learn to use the tools effectively. It takes years of developing research and workflows to produce well-made digital art. Digital Artists are well-skilled and knowledgeable artists similar to any artistic discipline like sculpture or painting.

Tell us a little bit about the work you created at the artist's residency in Taos this past summer.

I applied to the residency with the concept that I would be making a community-responsive research-intensive video projection presentation around the history of water in the Taos Valley. When I got accepted, I immediately started conducting preliminary research and reaching out to community partners I wanted to meet when I got there in person. I developed lectures about my research for my artist talk and a research presentation at the Taos Library. I met all the librarians and spoke to community leaders about the history of water and water rights in the area. I spent a whole day in the Acequia and Water Research Lab at UNM Taos, which was a collection dedicated to the history and primary documentation of water rights in Taos and throughout the Southwest. This was knowledge-building and collecting artifacts for use in my videos. I then started playing with the images and document scans and using animation software to bring them to life. I used my understanding of what was important to the community, I conducted interviews at the farmers market, to create several subjects around water, Water Rights Advocacy, Geologic History, Pueblo Knowledge, colonial history, etc. I identified a location for the projections and built each video animation custom to that location. I spent a week animating and rendering. My final exhibition was on a Saturday and we had a huge community turnout and it was a great success!

Faculty Spotlight

Amanda Zirzow



How did you end up becoming a professor? Was this always your professional aspiration, or did you follow a more circuitous path?

My path to becoming a professor was shaped by a lifelong fascination with the natural world and a family background in scientific research. My enthusiasm for molecular biology grew from my undergraduate research at institutions like George Mason University and the National Institute of Diabetes and Digestive and Kidney Diseases. These experiences, combined with my love for teaching, naturally led me to a career in academia. Here, I blend hands-on scientific exploration with classroom education, aiming to inspire students with practical insights into molecular biology. While not initially my clear goal, academia has become a fulfilling convergence of my interests, talents, and love for continuous learning and contributing to science.

What is one thing about your field of expertise that you wish everyone could know and understand?

As a professor of biology, I would love for everyone to appreciate the beauty of continuous learning and the power of critical thinking. In the fascinating world of biology, and indeed in many areas of science, the skill to thoughtfully analyze information, openly question assumptions, and carefully assess evidence is incredibly valuable. Nurturing these critical thinking skills not only enriches our problem-solving abilities but also deepens our understanding of the intricate and beautiful complexities of life. It is this journey of discovery and understanding that makes biology so exciting and rewarding, and I warmly invite everyone to explore and share in these learning experiences.

Tell us a little bit about the research project you are working on with your students.

My undergraduate research students and I are exploring how cells respond to small molecules and the subsequent changes in gene expression that influence cell morphology and physiology. We are exploring the molecular mechanisms behind drug resistance in Candida glabrata, a human opportunistic fungal pathogen that is inherently resistant to azole-based drugs, and the CDC reports that resistance to the echinocandin class of antifungal drugs appears to be increasing. A distinctive feature of these fungal pathogens is their 1,6-β-glucan based cell wall. This outer structure protects the fungus from host defense mechanisms and contains a large number of genes encoding adhesin-like glycosylphosphatidylinositol (GPI) proteins, which directly contact host cells. Exploring small molecules that inhibit the cell wall integrity (CWI) signaling pathway, or affect the high-affinity calcium uptake system (HACS) complex, may be crucial in enhancing the efficacy of echinocandins. One of our current projects involves exploring synergistic combinations of plant-derived compounds to enhance the Minimum Inhibitory Concentrations (MICs) - the lowest concentration of an antimicrobial required to inhibit the visible growth of a microorganism after overnight incubation. By studying compounds effective against C. glabrata, we aim to tackle the challenges of drug resistance and potentially improve treatment options. Our approach focuses on identifying promising compounds that may lead to developing novel antifungal agents to combat C. glabrata infections.

Tell us a little bit about your artwork. When did you begin making art, and does your work as a biologist inform this work, or is it a totally separate endeavor from your professional work?

I began exploring art in my early years under an inspiring instructor, learning about art history, composition, color theory, and various media. This artistic passion developed alongside my scientific interests. As a biologist, my focus on detailed observation influences my art. Though not always explicitly biological, my artwork is shaped by my scientific perspective, often incorporating nature textures and colors, whether in serene landscapes, vibrant abstracts, or exciting wildlife. For me, art and science intertwine, each enriching the other. Painting offers a creative balance to the structured world of biology, allowing me to express the same themes more intuitively. While my art may appear distinct from my biological work, both are united in their exploration and representation of the natural world, echoing my fascination with life's diverse expressions.

Student Spotlight

Daniel Ocampo

Tell us a little bit about yourself and what you plan to do now after you graduate from FSW.

Hello! My name is Daniel Ocampo, an FSW Honors Scholar. My hobbies include running, chess, and programming. After graduation I plan to attend UCF where I will obtain my B.S and then M.S in Computer Science. I plan to be a software engineer and to then move on to become an AI researcher and to contribute to advancing AI in healthcare. I aim to make a positive impact on the world.

Describe your capstone project.

I am part of a few tech clubs outside of FSW such as SWFL Coders, VR and AR of SWFL, and the Tech Alliance of SWFL. I've been working on getting the CS club here at FSW started again. During one of the Tech Alliance of SWFL club meetings, I approached Prof. Piro about working on some programming projects and with his guidance and the help of another student we were able to create an Alexa Skill that gave us information about the latest developments in the tech world. We then went on to begin creating a hate speech detection system, which inspired the idea for my capstone project. I have been developing a Chrome extension that detects hate speech on the browser. I decided to focus on a specific area of interest and chose offensive language related to environmental topics. It has been exciting to have the opportunity to work on this project which I will continue to develop next semester.

What have been your most rewarding experiences in the Honors Scholar Program so far?

Being a part of the Honors Program has been very rewarding; from the chance to engage in insightful discussions at Honors events to the amazing faculty who have helped me gain many valuable experiences and knowledge. The financial support through scholarships has also been significant in helping me pursue my academic and research goals.

What advice would you give to the students at FSW (both Honors and non-Honors)?

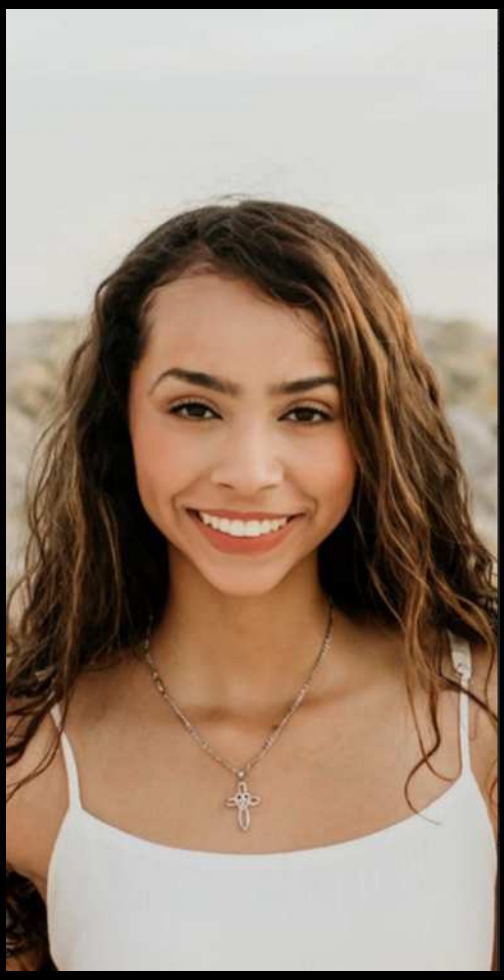
I would advise embracing every opportunity. Even if you're not sure of what you aspire to be or do in the future, you must trust that each experience contributes to your journey. It's important to stay curious, dedicated, and to take advantage of all the amazing resources and events that are available here at FSW. Remember that the journey is just as important as the destination.

Student Spotlight

Santana Khan

Tell us a little bit about yourself and what you plan to do after you graduate from FSW.

Hi! My name is Santana Khan, and I am a dual-enrolled high school senior. After graduation, I plan to attend a four-year college on the pre-med track. During my time at FSW, I have had the fantastic opportunity to create the Women In STEM RSO and cofound the FSW Social Justice Union. I have also been privileged to serve as Collier Campus Student Government Association president, vice president, and senator. When not in class or studying, I enjoy playing with my dog, writing poetry, and spending time with my friends and family.



Describe your capstone project.

My capstone project, under the guidance of Professor Terri Housley, was one of the many highlights of my FSW Honors Scholar experience. My sister Sierra and I examined the shortage of Black physicians in Florida and its effects on health inequity. We were fortunate enough to win the second place prize at the Honors Research Expo, and our paper has been accepted for publication and is currently in press at the Journal of Emerging Investigators.

What have been your most rewarding experiences in the Honors Scholar Program so far?

The FSW Honors Scholar program has been an invaluable experience for me as I have learned and grown through incredible field trips and stimulating courses with outstanding professors and mentors. I also appreciate the generous funding the Honors program provided for me to attend state-level academic competitions.

What advice would you give to the students at FSW (both Honors and non-Honors)?

My advice for students at FSW is to immerse yourself in the many rich and rewarding extra-curricular activities our college offers. I also strongly recommend applying to the Honors Scholar program as the support you will receive from world-class faculty is unparalleled, and you will be challenged to spread your wings and stretch your comfort zone to become the best version of yourself as a student and a person.

CREATIVE Capstone

Dr. Rebecca Harris

Recently, I have had the tremendous privilege of seeing students present their CREATIVE Capstone Research Projects at International Education and Global Connections week, as well as in Capstone classes. All of these projects were unique and interesting, but what struck me the most is how passionately students spoke about their research questions, methods, and conclusions. Before a presentation on their work in Capstone in Costa Rica in Summer 2023, a student discussing his experience described the initial discomfort he felt with research skills in the course, but how great it was to apply and improve those skills with something he really cared about, in this case, conservation. In Capstone, we often say, "Be interested, be interesting," and that is nowhere more evident than seeing students present on topics they are deeply interested in and passionate about—passion makes us (and our topics) interesting to others!

Students' research in Capstone is self-motivated, which leads us to the second half of our Capstone slogan, "Be motivated, be motivating." People who are motivated by their passions in turn motivate others. I have seen projects and presentations on topics ranging as widely as prison reform, 1960s fashion, Bratz dolls, gluten-free baking, traffic congestion, folk horror, traditional Southeast Asian foods, tropical conservation, sport fishing, contracts in Hollywood's Golden Age, criminal profiling, coffee, retired service dogs, and much, much more. Students have written papers, designed magazine spreads, put on fashion shows, recorded video essays, made lesson plans, developed cookbooks, and beyond. Some students' research bibliographies are truly extraordinary, and that is a testament to the motivations of the students, but also the dedication of their professors and embedded librarians, who serve as mentors to the projects throughout the research process. The CREATIVE Capstone is a great example of high-impact practices in action because it shows what students can accomplish when they are intrinsically motivated by their own interests and want to share those interests with others. As I reflect on the first two years of the CREATIVE Capstone, I am most proud that our faculty, librarians, and students are seeing the dividends of student-centered pedagogy.

If you'd like to learn more about the CREATIVE Capstone and our philosophy, which can be applied to any course or discipline, please join us for the second half of our Be CREATIVE Professional Development series in the Spring semester. The first Spring session, "Create" is on 1/26 and you can register here. You can also reach out to me or to Dr. Matthew Vivyan, Lead Faculty, about opportunities to be trained to teach the CREATIVE Capstone course. We, and our students, would love to work with you!

Herpeton Conference

The first Annual Herpeton: South Florida Herpetology Conference was held September 24-26th at the Rush Library on the Edison Campus. The goal of the meeting was to provide an outlet and venue for collaboration and to help herpetologists (aka the studiers of creepy and crawly vertebrates), captive reptile keepers, management agencies, NGOs, and STEM students from around the state (and beyond!) reacquaint and become familiar with current ongoing research in the field of herpetology. The conference saw representatives from 7 academic institutions, 16 conservation/management organizations, and 6 Education/Herpetoculture organizations. A total of 94 attendees registered to attend the conference, with more than 40% being students. Over 50 academic presentations and posters were presented over the three-day conference.

The conference generated enough success and vocalized support that we intend to host it regularly as a major facet of the school of pure and applied science in the future. The 2024 conference is currently being planned!

FALL EVENTS

Fall Faculty Symposium

Thank you to our ARC grant and lightning talk presenters:

Professor Jordan Donini

Dr. Brandon Jett

Dr. Myriam Mompoint

Dr. Michael Sauer

Dr. Michael Witty

Dr. Gerald Anzalone

Professor Stuart Brown

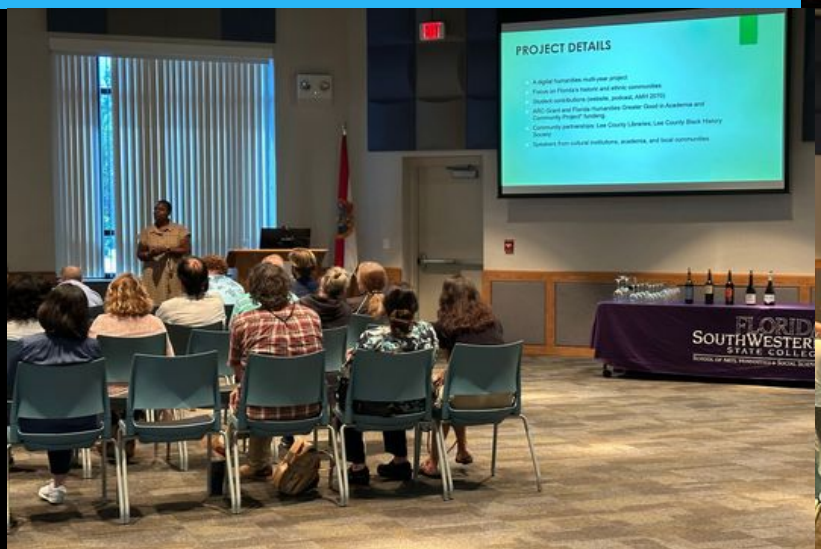
Dr. Gus Cameron

Dr. Brandi George

Dr. Shawn Moore

Professor Ruben Olguin

Professor Amanda Zirzow



USF Tour





HONORS

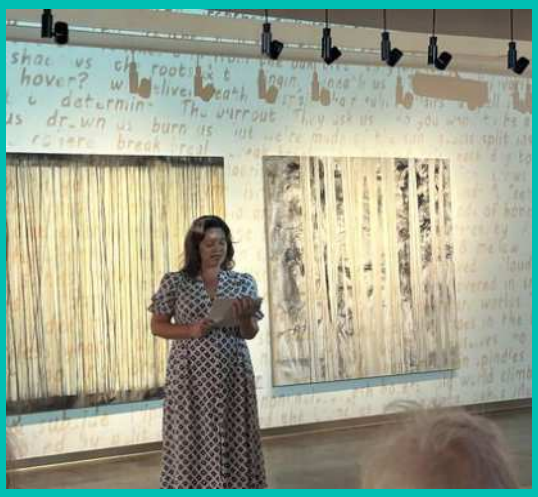
FSW Florida SouthWestern State College Honors Program

FGCU Tour


Involution

Involution

Involution is the process of enfolding, inwardness, curving, ingrowth, or entangling. It is the state of being involved or complicated. Dana Roes' paintings and Brandi George's poetry explore the art of involution in this collaborative exhibit hosted by BIG ARTS on Sanibel. Inspired by evolution, extinction, and South Florida waters, forests, and skies, this collection of art and poetry reveals the many beginnings before the one we know, the hieroglyphics of stone, secrets in fire, and the transformational power of loss. If you missed the opening, you can still visit the exhibit until December 10th.



Paintings by Dana Roes
Poems by Brandi George
Projection by Ruben Olguin

Honors Meet & Greet

Thank you to our Honors Ambassadors:

Felipe Bonini, Catherine Burzo, Alexis Machado, Daniel Ocampo, Eden Sterk, and Grace White

INTERNATIONAL EDUCATIONAL WEEK

Daniel Holmes and Rhea Schott:

Multimedia Art Installation:

Best of All Worlds

Thank you to our student presenters:

EJ Hoffman

Cody Weber

Joey Gervickas

Kate Martinez

Juliana Arena Gaviria

Christian Jasinski

Zoe Armstrong

Daniel Holmes and Rhea Schott

Happy Holidays

CURC Committee Members

Dr. Stuart Brown
Prof. Jordan Donini
Dr. Brandi George
Dr. Brandon Jett
Dr. Katharine O'Connor
Dr. Bridgette Malchow
Dr. Myriam Mompoint
Dr. April Ring
Dr. Michael Sauer

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