

11th Annual Florida Statewide Symposium

Best Practices in Undergraduate Research

October 19th & 20th 2018

Boca Raton, Florida



FAU

**UNDERGRADUATE
RESEARCH AND INQUIRY**

Florida Atlantic University

www.researchsymposium.ucf.edu

KEYNOTE SPEAKER:

Speaker: Evelyn Frazier, Ph.D.

Senior Instructor, Florida Atlantic University, Department of Biological Sciences



Evelyn Marques Frazier, Ph.D., is a NRMN Master Facilitator, Senior Instructor, and Director of the Introduction to Biological Research and Honors Thesis Program at Florida Atlantic University. These programs were developed under an NSF-Undergraduate Research and Mentoring award to increase the participation of underrepresented groups in undergraduate research and create a culture of research among undergraduate students. The program has trained over 168 students in 9 years. She is now expanding undergraduate research training to freshman and transfer students through the NSF-LEARN Program in the College of Science. Dr. Frazier is also a Summer Institute on Scientific Teaching Alumni (2006, 2007, 2012) and has modified her courses to promote active learning. She is an insect ecologist with experience in tropical ecosystems, and has been teaching introductory biology courses for 17 years. Her research interests are on gopher tortoise conservation, insect-plant interactions, and Biology Education.

Email: efrazier@fau.edu

SCHEDULE OF EVENTS:

FRIDAY, OCTOBER 19, 2018

CONFERENCE CENTER LOBBY / MAJESTIC PALM ROOMS / SAGO PALM

11:00AM - 1:00PM:	REGISTRATION
1:00PM - 1:30PM:	WELCOME & ORIENTATION
1:30PM - 2:45PM:	KEYNOTE PRESENTATION
2:55PM - 3:45PM:	PANEL DISCUSSIONS
3:55PM - 4:15PM:	MINI PRESENTATIONS
4:25PM - 5:10PM:	INTERACTIVE PRESENTATIONS
5:25PM - 7:00PM:	POSTER SESSION
7:00PM	DINNER ON YOUR OWN

SATURDAY, OCTOBER 20, 2018

CONFERENCE CENTER LOBBY / MAJESTIC PALM ROOMS / SAGO PALM

8:15AM - 9:00AM	COFFEE & CONVERSATION
8:15AM - 8:50AM	FLORIDA UG RESEARCH CONFERENCE (FURC) - OPEN PLANNING MEETING.
9:00AM - 10:00AM	SPECIAL WORKSHOP
10:10AM - 10:55AM	INTERACTIVE PRESENTATIONS
11:00AM - 11:20AM	MINI PRESENTATIONS
11:30AM - 11:50AM	MINI PRESENTATIONS
11:50AM - 12:45PM	LUNCH
12:45PM - 1:30PM	INTERACTIVE PRESENTATIONS
1:40PM - 2:00PM	MINI PRESENTATIONS
2:10PM - 2:30PM	MINI PRESENTATIONS
2:40PM - 3:00PM	DEBRIEFING

SYMPOSIUM SCHEDULE:

FRIDAY OCTOBER 19

11:00AM - 1:00PM	REGISTRATION	Conference Center Lobby
1:00PM - 1:30PM	WELCOME & ORIENTATION	Majestic Palm Room
1:30PM - 2:45PM	KEYNOTE PRESENTATION	Majestic Palm Room
2:55PM - 3:45PM	PANEL DISCUSSIONS	Majestic Palm Room A & B

Promoting Partnerships in Undergraduate Research: Transforming Barriers to Strengths

Majestic Palm A

Undergraduate research has several documented benefits for students and relies heavily on the willingness of university faculty to provide mentorship. Faculty mentors dedicate a significant amount of time, effort and expertise to mentor undergraduates, and this often results in mutually beneficial outcomes. Still, some faculty are hesitant to become involved in this process due to certain real and perceived barriers. This multi-institution panel will address barriers to mentoring undergraduate researchers, and share successful strategies.

Moderators: *Ceylan Isgor and Tricia Meredith*

Panelists: *Michael Cross (University of South Florida), Mary Crowe (Florida Southern University), Kassy Holmes (Valencia State College), Rachel Pauletti (Lynn University), and Jeanette Wyneken (Florida Atlantic University)*

Models and Best Practices of Undergraduate Research Mentoring

Majestic Palm B

Undergraduate research has been demonstrated to be a key factor in improving academic student success. One key factor in this is having a close working relationship with a faculty member as well as other supportive infrastructures such as a multi-tiered mentoring approach including staff and peer-mentors. Faculty and administrative representatives from various campuses will share their models and strategies for nurturing healthy mentored relationships with their students.

Moderators: *Melodie Eichbauer (Florida Gulf Coast University) and Wes Lewis (Embry-Riddle Aeronautical University)*

Panelists: *Anne Donnelly (University of Florida), Eric Freundt (University of Tampa), Marianne Porter (Florida Atlantic University), Melonie Sexton (Valencia College), and Zuzana Zajickova (Barry University)*

SYMPOSIUM SCHEDULE:

MINI PRESENTATIONS

3:55 - 4:15pm

Managing an Interdisciplinary Research Journal at Florida Atlantic University

Majestic Palm A

Tracy Baker and Makenzie Rynn (Florida Atlantic University)

The Florida Atlantic Undergraduate Research Journal (FAURJ) is an interdisciplinary, double blind peer-reviewed journal that supports undergraduates across all disciplines through showcasing high quality undergraduate research, supplying students with examples of the standard of research, and promoting inquiry-based activities at the university. For the past six years, establishing the most efficient methods to streamline the review and publication of manuscripts has been an ongoing learning process. Topics of discussion will include the processes behind the development of the journal, the review and revision process, copyright and intellectual property, and the publication and distribution of the FAURJ.

Eight years of FURC: Outcomes and Planning for the Future

Majestic Palm B

Eric Freundt (University of Tampa) and Kimberly Schneider (University of Central Florida)

One example of an enduring outcome from the Engagement in Undergraduate Research Annual Symposium is the creation of the Florida Undergraduate Research Conference (FURC), which is an annual event open to all undergraduate students in the state of Florida to present their research in a poster format. In this session, we will present FURC outcomes and survey data. Recently, the planning committee has initiated the process to form a non-profit corporation to oversee FURC and facilitate other statewide initiatives to support undergraduate research. Opportunities for involvement in this new organization, called the Florida Undergraduate Research Consortium, will be presented.

Guiding Early Research

Sago Palm

Florence Neymotin (Nova Southeastern University)

While the majority of undergraduate research collaborations typically occur during the junior or senior year of college, there are some benefits to be gained from beginning the research process earlier on. Methods for engaging students and guiding them through the process of choosing a topic, piloting an initial survey, analyzing summary statistics and basic results, and beginning a literature review are suggested. It is anticipated that earlier engagement in research will often be beneficial for creating a more fruitful and elaborate final research project at a later stage of the student's undergraduate career.

SYMPOSIUM SCHEDULE:

INTERACTIVE PRESENTATIONS

4:25 - 5:10pm

Using Social Media to Increase Undergraduate Research Engagement/Involvement: Presented by University of North Florida and Florida Atlantic University

Majestic Palm A

Andrea Thompson (Florida Atlantic University), Kelsey Eagen (University of North Florida), and Josh Hollin (Florida Atlantic University)

Social media is a useful tool to communicate relevant campus information and news to undergraduate students. The purpose of this presentation is to offer ideas from the University of North Florida's Office of Undergraduate Research and Florida Atlantic University's Office of Undergraduate Research and Inquiry to increase student and faculty engagement in research through social media and internal communications. Topics of discussion will include a social media analytics overview, student showcasing, daily social engagement posts, weekly newsletter templates, and social media techniques to increase student enrollment in Research Intensive Courses on your campus.

1 Summer, 2 models, \$80k: The Summer Undergraduate Research Fellowship Programs at Florida Atlantic University and the University of Central Florida

Majestic Palm B

Jennie Soberon (Florida Atlantic University) and Aubrey Kuperman (UCF)

Florida Atlantic University and the University of Central Florida offer summer fellowship programs for undergraduate researchers. Both programs fund research and inquiry projects for the summer on an \$80,000 budget, but that is where the similarities end. This presentation will offer two models; one intensive program (FAU's) serves about 20 faculty-student research pairs and the other program (UCF's) provides professional development through two tracks for 45 student researchers. This session will review the budget, professional development (workshops/activities), and assessment of both programs to allow others to adapt and modify at their institutions.

Undergraduate research with dual enrollment students

Sago Palm

Tricia Meredith and Amy Tift (Florida Atlantic University)

Florida Atlantic University High School (FAUHS) has developed an effective research program to support dual-enrolled students in undergraduate research. FAUHS is a laboratory school on FAU's campus where students transition to the university full-time following 9th grade. The FAUHS Research Program is a series of multidisciplinary research methodology courses that develop students' basic research skills, while also being mindful of research ethics/safety issues pertaining to minors. The program has trained 248 students from 2014-2018, with 22 students co-authoring peer-reviewed publications, 100 winning research grant totaling over \$58,000, and 154 presenting at conferences

SYMPOSIUM SCHEDULE:

POSTER SESSION Conference Center Lobby 5:25 - 7:00pm

Biological processes at work: Detection of environmental chemicals in urine

Cassandra Korte and Erika Doctor (Lynn University)

This course-based undergraduate research experience will consist of a multi-week module of laboratory exercises focused on development of analytical methods to assess exposure to environmental chemicals. Students will analyze urine samples from an intervention study focused on reducing exposure to potentially harmful compounds found in personal care products. In light of possible risks, efforts to reduce exposure through adoption of alternative products are warranted. In completing this module, students will gain hands-on research analytical experience and have opportunity to design future interventions.

A Cohort-Based Program To Help Students Prepare A Conference Research Presentation

Alanna Lecher (Lynn University)

Students move through many first time experiences when navigating their undergraduate and graduate education. Such experiences include the first time students submit an article to a peer-reviewed scientific journal, attend a conference, and conduct fieldwork. The cohort model has been shown to be effective in increasing success in undergraduate education, and it can be adapted to helping students succeed in these novel experiences as well. This presentation will explore one program where the cohort model was implemented to aid undergraduate students preparing their first conference presentation on a scientific research project. Program structure and implementation will be described.

Research Roundtables: Connecting Research Mentors and Undergraduates

Alicia Batailles and Alex Oldham (Florida State University)

The Undergraduate Research Opportunity Program (UROP) at FSU allows students to engage in research projects that professors, graduate students, and community leaders facilitate. This poster outlines FSU's Research Mentor Roundtables, an event where UROP students have the opportunity to meet a variety of research mentors in a casual setting to learn about their research and ask questions. Through this event, student researchers gain the confidence needed to approach research mentors with the intent of creating a new working relationship. This event can be scaled up for a wider audience to help students connect with research mentors across campus.

SYMPOSIUM SCHEDULE:

POSTER SESSION **Conference Center Lobby** **5:25 - 7:00pm**

Teaching World Literature through The Labyrinth *Ilaria Serra (Florida Atlantic University)*

This poster is the result of a class work of “LIT 2100 Introduction to World Literature” (Fall 2017). The syllabus attempted to go over a basic study of literature, and encouraged students to engage in research through critical thinking. Their task was applying an overarching metaphor to understand multiple literary texts, the labyrinth of life. The poster will show the results the class produced and presented at the last OUR Undergraduate Symposium last Spring.

Underserved Student Population: Nontraditional Students *Wes Lewis (Embry-Riddle Aeronautical University)*

40 percent of students enrolled in postsecondary institutions are nontraditional students (NTS), but many of the services offered are designed for traditional students (NCES, 2017). How does an undergraduate research office support this growing student population? To answer this question, a literature review was conducted, and the following themes were discovered: barriers to nontraditional students participation, programs designed for NTS, and a gap within the literature of student’s perception on participating in UR programs. Before addressing this issue, programs should first conduct an analysis of available data on their NTS to determine if special programs are warranted.

Embedding Community-Oriented Research in Undergraduate Programs: Case Study of FSU Tech Fellows *David Montez (Florida State University)*

FSU’s Center for Undergraduate Research and Academic Engagement (CRE) has partnered with Launch Florida to promote diversity in entrepreneurship by providing internships for underrepresented students with business incubators. The FSU Tech Fellows program provides an example of embedding community-oriented activities to position students as future leaders within business ecosystems. This discussion will examine how the program seeds community-focused questions into weekly reflections and a capstone research project that focuses on an element of the local entrepreneurial ecosystem. These projects are often case studies examining a startup and its place within the community or an incubator’s ability to strengthen its ecosystem.

SYMPOSIUM SCHEDULE:

POSTER SESSION **Conference Center Lobby** **5:25 - 7:00pm**

Undergraduate Research through Service Learning: From global to local *Kimberly Reid (Florida State University)*

FSU's global service learning program, Global Scholars, allows students to practice qualitative research skills while participating in service with community organizations in the Global South. When students return to campus in the fall, they are then provided with opportunities to connect with similar service agencies in Tallahassee, to form relationships where research can thrive. This poster outlines the Global Scholars model for transitioning students from research abroad to research in local communities with the help of campus partnerships. Their approach includes methods such as panel discussions with community leaders, individualized advising on service opportunities, organized service learning trips, and more!

Research Intensive Business Communication Course *R. Kenny Leblanc (Florida Atlantic University)*

Research can provide an important means for developing and communicating innovation or changes. This poster from the Business Communication Program will discuss the need for integrating research intensive assignments into GEB 3213: Introduction to Business Communications. This presentation will outline the objectives, methodologies, and learning design of the Research Intensive course. We will report preliminary quantitative and qualitative data obtained from student participants with their perspective on the need for research skills in their future business work environments. We will discuss the benefits and future directions to improve the use of research in Business Communication and other business courses.

Learning by Doing *And* by Example: How to Effectively Teach the Research/Writing Process *Keith Jakee (Florida Atlantic University)*

Learning to write in an academic context and learning the research process pose challenges for undergraduates because of the severe time constraint. I have developed a research/writing class over 20 years to overcome these particular difficulties. Specifically, the course attempts to: demystify the thesis process; force students to begin writing "something;" convey the importance of a clear claim/hypothesis in any research; demonstrate that writing/research is composed of very separate processes (e.g., brainstorming, organizing/outlining, drafting, revising with feedback); illustrate how writing involves different problems than oral discussions; clarify how critical reading develops one's own writing; show how important criticism/feedback is to all writing

SYMPOSIUM SCHEDULE:

POSTER SESSION Conference Center Lobby 5:25 - 7:00pm

Expanding science opportunities to the local community

Flona Redway, Peter Lin, Teresa Petrino, and Stephanie Bingham (Barry University)

For many years, underserved high school students in Miami-Dade and Broward have experienced biology education at the university level to prepare them for college, producing positive outcomes in university placements. Through workshops and hands-on research this program tackled gaps in access to college preparation by improving students' understanding of the expectations in college. With a newer program, Barry undergraduate research students support elementary school science education. Engagement with school administrators led to the development of a hands-on science program tailored to specific subject area needs, a partnership that yielded benefits for both the children and undergraduate students.

Incorporating service-learning project into writing-intensive Instrumental Analysis course

Zuzana Zajickova (Barry University)

Instrumental Analysis is a writing-intensive course required for senior chemistry majors. Last year, a service-learning research project was incorporated into the curriculum. We have partnered with Urban GreenWorks. The project of conducting soil analysis from community gardens in Liberty City for the presence of lead was a good match for Instrumental Analysis as it aligned with the course objectives which are to formulate strategies to solve chemistry problems, to conduct analysis using modern instrumentation, to analyze and interpret acquired data, and to efficiently present them to general and scientific audiences as a written report and an oral presentation.

Undergraduate Research Experiences in Physics: The Mentor-Model and Embedded-Model

Victor Bondzie (Valencia College)

One of the major problems faculty encounter in implementing undergraduate research in a 2-year is the selection of appropriate model for engaging students. In this presentation, I share some results of my experiences in applying the mentor-model and the embedded-model in my Physics courses. Both models have proved successful in my courses. The only drawbacks I have observed, is generally the limited time to work with students, as well as the investment in time and financial limitations.

SYMPOSIUM SCHEDULE:

POSTER SESSION **Conference Center Lobby** **5:25 - 7:00pm**

NSF B-CU REU Site - Workforce in the Mathematical Sciences: Mathematical Modeling in Environmental, Biological and Other Sciences

Younger Kim (Bethune-Cookman University)

With support from National Science Foundation, Bethune-Cookman University set up a Research Experiences for Undergraduates (REU) site during summer of 2018. The objectives of this REU are to promote early engagement of undergraduate students in research, and to inspire students to pursue advanced STEM education and research careers for increased diversity in STEM workforce. Nine students participated in our eight-week program that provided them research-learning experiences in multiple scientific disciplines, and that engaged them in research projects that pose scientific, technological and data analytic challenges. The outcome of this year's program and the future direction will be presented and discussed.

NSF LEARN Consortium: Impact of STEM student participation on critical thinking, GPA, earned credits, and retention

Jordan Merritt (Florida Atlantic University)

The University of Central Florida, Florida Atlantic University, and Western Carolina University developed a NSF funded Learning Environment and Academic Research Network (LEARN) to impact retention of STEM students. The program targets first time in college freshman (F-LEARN) and transfer students (T-LEARN) who have earned an AA degree. The LEARN program consists of three main components: Academics/Research, Mentoring, and Community building. Ideally, the added support/requirements of the LEARN program should have only positive effects. Preliminary program assessment demonstrates that LEARN students show increases in critical thinking, course credits earned, and retention while maintaining comparable grade point averages to non-LEARN students.

The Florida Undergraduate Research Leadership Summit

Anne Donnelly (University of Florida)

The Florida Undergraduate Research Leadership Summit (FURLS), January 25-26, 2019, is an intercollegiate summit for student leaders in undergraduate research to discuss initiatives that enhance the undergraduate research culture. A Friday night reception will be followed on Saturday with panels and workshops. The goals are: to promote, improve, or establish student-led undergraduate research groups at schools across Florida; exchange ideas and practices; create and solidify a network between all schools in Florida of leaders in undergraduate research. Interested in learning more? Email CUR Director of Special Projects with the subject line "FURLS." Stephanie Ciricillo, sciricillo97@ufl.edu.

SYMPOSIUM SCHEDULE:

SATURDAY, OCTOBER 20

8:15AM - 9:00AM

COFFEE & CONVERSATION

Conference Center Lobby

8:15AM - 8:50AM

FLORIDA UG RESEARCH CONFERENCE (FURC) - OPEN PLANNING MEETING

Silver Palm Room

9:00AM - 10:00AM

SPECIAL WORKSHOP

Majestic Palm Room

Evelyn Frazier, Ph.D.

Master Facilitator for NRMN

The National Research Mentoring Network (NRMN) is a nationwide consortium of biomedical professionals and institutions collaborating to enhance diversity and support research scientists in their progression through each stage of the workforce. This consortium has trained and certified 35 Master Facilitators from 16 institutions to implement evidence-based research-mentoring curricula at all levels of expertise from undergraduates to junior faculty.

As a master facilitator I implement seminars of the curriculum "Entering Research: A Facilitator's Manual: Workshops for Students beginning Research in Science." This curriculum consists of 95 evidence based, active learning activities that can be implemented in the training of undergraduate or graduate students. The activities are grouped by Meta Learning Objectives and Areas of Training Development such as: Research Comprehension and Communications skills, Practical research skills, Research ethics, Researcher Identity, Research Confidence & Independence, Equity and Inclusion Awareness and Skills and Professional & Career Development Skills. These activities can be implemented from an exposure level experience through a research-intensive experience. This curriculum is flexible and allows for the development of research mentoring programs at any level of research experience.

SYMPOSIUM SCHEDULE:

INTERACTIVE PRESENTATIONS

10:10 - 10:55am

Reaching Out: Collaboration to Expand Community-Engaged Research

Majestic Palm A

Latika Young, Kimberly Reid, Alicia Batailles, and David Montez (Florida State University)

FSU's Center for Undergraduate Research and Academic Engagement is charged with engaging undergraduates in research and other academic High Impact Practices. This expanded focus allows the integration of research experience within HIPs, especially global engagement, service learning, and innovation/entrepreneurship. While the CRE continues to bolster its community-engaged research efforts, this presentation details our current relationships with campus partners (Center for Leadership and Social Change), the Tallahassee and Florida non-profit and start-up community (UROP), and the global community (Gap Year Fellows/IDEA Grants). The audience will develop ideas for collaborating with partners engaged within communities to support research opportunities for undergraduates.

Doing More While Spending Less: Increasing Office Productivity on a Budget

Majestic Palm B

Kelsey Eagen (University of North Florida) and Aubrey Kuperman (University of Central Florida)

This presentation will cover a variety of methods and tools that undergraduate research staff members at two institutions use to increase program efficiency and assessment. Free or low-cost web-based tools will be discussed, and the presenters will illustrate how these tools have increased output or improved the quality of services offered by their offices. The presenters will share how these solutions have been used on their campuses and will lead a discussion about how participants can adapt these tools to fit individuals' institutions.

Strategies to Use Work-Study Research Program to Enhance Professional Development of Transferable Skills

Sago Palm

Jaclyn Chastain, Hulya Yazici, and Melodie Eichbauer (Florida Gulf Coast University)

Florida Gulf Coast University started a work-study program to provide students with financial need the opportunity to engage in undergraduate research. Faculty working with students research facilitate the development of traditional skill sets, including discipline knowledge, interpersonal skills, methodology development, analytical skills for the discipline, etc. To accompany this traditional research experience, the WiSER Eagles program (Work-study in Scholarly Experiential Research) provides an opportunity to enhance the professional development of transferable skills. We will discuss the connection between undergraduate research and transferable skills, the incorporation of professional development in the program, enhancing this effort moving forward.

SYMPOSIUM SCHEDULE:

MINI PRESENTATIONS

11:00 - 11:20am

Valuing Creativity, Research and Scholarship in All Disciplines

Majestic Palm A

Mary Crowe and Sara Fletcher-Harding (Florida Southern College)

Limiting the interpretation of what “undergraduate research is” to what those in the sciences do has hampered our understanding of how students, faculty and institutions are impacted by campus-wide programs that support students creating original knowledge within their fields. At Florida Southern College we recognize that creativity, research and scholarship are intertwined, that each academic discipline combines them uniquely as students move from receivers of information to emerging independent scholars, artists, and researchers. We need to capitalize upon the commonalities to build inclusive assessment instruments and evaluation plans to demonstrate how our academic programs improve student skills related to original inquiry

A Culture of Mentorship through VCoP

Majestic Palm B

Kadie Hayward Mullins (Embry-Riddle Aeronautical University)

Establishing a culture of quality research mentorship is an imperative component of the undergraduate research experience, from ensuring students are provided appropriate support to producing superior research output. This presentation will briefly explore the using of a Virtual Community of Practice (VCoP) as one tool to support the development of this culture. The VCoP includes professional development modules, live stream webinars and workshops, and discussion platforms using Canvas, Skype, and AdobeConnect.

Scaffolding Inquiry Across the Curriculum at the University of Tampa: Progress and Lessons Learned

Sago Palm

Eric Freundt and Richard RiCharde (The University of Tampa)

The Quality Enhancement Plan (QEP) at the University of Tampa focuses on a scaffolded approach to engage students in the process of inquiry and enable students to acquire the skills required to plan and complete an inquiry-based culminating project. The process begins in First Year Experience courses where inquiry is introduced and is further developed in major courses that have been revised to include inquiry projects. Finally, the QEP has increased the number of opportunities for students to participate in research-based culminating projects. In this session, we discuss the lessons learned, the adjustments made, and the outcomes measured to date.

SYMPOSIUM SCHEDULE:

MINI PRESENTATIONS

11:30 - 11:50am

CRISPR in the Undergraduate Classroom

Majestic Palm A

Heather Evans Anderson (Stetson University)

A CRISPR/Cas9 semester-long project using mammalian cell culture was implemented in an undergraduate course. The goal of this implementation was to expose students to an inquiry-based project and promote engagement with undergraduate research. This approach fulfills all tenets that define a CURE and expands opportunities to engage a wider population of students in an undergraduate research experience than a traditional apprenticeship model. This approach also provides faculty a means for building independent research programs. Overall, this project was an exciting way to engage an undergraduate class in novel research that was mutually beneficial to both students and the instructor.

Expanding Tiny Earth Research at FAU

Majestic Palm B

Diane Baronas-Lowell (Florida Atlantic University)

“Tiny Earth”, a community based antibiotic discovery initiative, involves nearly 10,000 students annually at hundreds of schools in fourteen countries. Since 2016, more than 600 undergraduates with non-STEM majors have engaged in FAU’s Tiny Earth. Students dig their own soil, isolate bacteria and test them for antibiotic activity against safe relatives of deadly pathogens. Students use classic microbiology tests, DNA amplification and bioinformatics to identify their antibiotic-producing bacteria. So far, FAU students have preserved more than 360 antibiotic-producing bacteria. FAU’s microbiology teaching labs, as well as, biology and chemistry research labs are farther characterizing these bacteria and their active compounds.

Research Courses for Guppies: How to Guide Freshman and Sophomores to Conduct Novel Research

Sago Palm

Ashley Spring (Eastern Florida State College)

There never seems to be enough time. Two to four undergraduate years does not leave much room for conducting research, but it can be done and done with great success. In as little as a semester, freshman and sophomores can learn the skills and conduct novel research. Using biology as an example discipline, research course development, execution, depth, and outcomes will be presented. Gain the tools to create and implement research courses at two- and four-year institutions with a greater understanding of how to teach the skills and conduct undergraduate research in the constraints of a semester.

SYMPOSIUM SCHEDULE:

INTERACTIVE PRESENTATIONS

12:45 - 1:30pm

Technology Uses and Experience Design to Promote Student Engagement at a Large-Scale Undergraduate Research Conference

Majestic Palm A

Ora Tanner and Michael Cross (University of South Florida)

This session will introduce participants to the concept of experience design and its implementation during the spring 2018 Undergraduate Research Colloquium at the University of South Florida to increase student engagement. Examples of technology uses and design considerations will be presented including: use of the Canvas LMS as a training and communication platform, transitioning from paper-based feedback forms to totally digital, redesign of traditional conference layouts and conference forms, and the introduction of augmented reality to student research posters. Participants will leave with ideas and tools they can implement to take their university's research conference to the next level!

12:45 - 1:30pm

Tales of Assessment: Vignettes of Evaluating and Documenting Undergraduate Research

Majestic Palm B

Kimberly Schneider (University of Central Florida) and Donna Chamely-Wiik (Florida Atlantic University)

Understanding breadth and depth of undergraduate research on all campuses is a challenge. This presentation will provide assessment vignettes from two universities: (1) two models to document participation campus-wide (2) a case study in inventorying research experiences, (3) mechanisms to assess student research learning outcomes (4) a plan to evaluate an NSF-Funded cohort-based program across three institutions. Strategies and tools will be shared and participants will discuss ways in which they can further their efforts on their campuses.

SYMPOSIUM SCHEDULE:

MINI PRESENTATIONS

12:45 - 1:05pm

Book Reviews in Student Journals: An Untapped Academic Niche

Sago Palm

Hagai Gringarten (St. Thomas University) and Raul Fernandez-Calienes

The authors present the results of their research into the presence and characteristics of book reviews in more than 200 student journals all across the United States and several other countries. They used a list of student journals, not including student-edited legal publications (such as law reviews and law review companions) or student-edited newspapers. They then analyzed the list to determine selected characteristics of student journals such as presence or absence of reviews, location of journal, fields or topics, sponsorship, frequency of publication, and source country of journal. The authors conclude with recommendations for future research and for educational policies in relation to student journals.

1:10 - 1:30pm

Scaffolding the Honors thesis research process: Ensuring success through intellectual, technical and social support

Sago Palm

Padmini Coopamah Waldron (University of Central Florida)

Researching for and writing a thesis is a notoriously lonely and challenging process, especially for inexperienced undergraduates for whom it is the first in-depth independent original research project. To boost undergraduates' confidence, equip them with the necessary tools and support them through the process of working on an Honors thesis, the Office of Honors Research at the University of Central Florida has put in place a three-pronged approach to student support: Establishing writing circles, providing technical/statistical workshops, and organizing social support groups (cohorts). While these initiatives are all new, initial results are promising.

1:40 - 2:00pm

Downscaling Satellite-based Soil Moisture (SM) Data Using Machine Learning Approaches – a case study of the Tibetan Plateau

Majestic Palm A

Hongbo Su (Florida Atlantic University)

Satellite remote sensing technology has been widely used to provide surface SM estimates. However, these SM products are limited in regional applications due to their coarse spatial resolution. In this study, three different types of machine learning were implemented to downscale the 8-day European Space Agency Climate Change Initiative SM data from 25 km to 1 km over the entire Tibetan Plateau. The results indicate that the GLM-based stacking model has the best performance for both ESA CCI SM and field observations with the highest R² and lowest RMSE among the three ensemble algorithms. This research work is part of an undergraduate curriculum component in SUR 4384 (Thermal Infrared Remote Sensing and Applications) at FAU.

SYMPOSIUM SCHEDULE:

MINI PRESENTATIONS

1:40 - 2:00pm

Bringing Research to the (Cybersecurity) Classroom

Majestic Palm B

Miloslava Plachkinova (University of Tampa)

Cybersecurity programs often have to compete with much shorter and cheaper certification programs that appeal to students and are required by employers. Integrating research and inquiry in the coursework is very challenging in such a competitive environment. In this presentation, we will discuss some successful strategies to make your undergraduate courses more focused on the critical thinking skills rather than the memorization skills. We will highlight some good practices for interdisciplinary education and for ensuring the success of research-oriented courses.

1:40 - 2:00pm

Advantages of Finalizing Undergraduate Creative Projects with a Research Poster

Sago Palm

Christopher Maraffi (Florida Atlantic University)

Before teaching at FAU, I developed the undergraduate media arts curriculum at USCB, where I assigned research posters to art students as part of their final project presentations. In this talk, I will describe my approach to integrating practice-based research practices into multimedia courses, and how framing creative work as a research agenda can benefit student learning. This STEAM (Art+STEM) approach to multimedia pedagogy tries to balance intuitive exploration of creative expression with critical enquiry into the artistic process. Students begin to understand that artists have always been technical and learn to better articulate what motivated their creative work.

2:10 - 2:30pm

Infusing undergraduate scholarship into teacher education

Majestic Palm A

Tunde Szecsi and Hasan Aydin (Florida Gulf Coast University)

Students majoring in education are underrepresented in undergraduate scholarship. To enable teacher candidates to develop and demonstrate their skills in scholarly activities and products, we implemented a well-orchestrated infusion of problem-solving, critical thinking, oral and written communication, collaboration into courses. In this presentation, we will describe this systematic course-based infusion of scholarly endeavors with examples from courses. In addition, during the past three years, annually we assessed teacher candidates' scholarly products for critical thinking, informational literacy and writing. Here we will share what we learned from the data, and how we used it to strengthen undergraduate scholarship for future teachers.

SYMPOSIUM SCHEDULE:

MINI PRESENTATIONS

2:10 - 2:30pm

Using a faculty-made multi-touch book in research methods courses

Majestic Palm B

Sanne Unger and Melissa Lehman (Lynn University)

Lynn University distributes iPads to all students for educational use. In the course Research Methods in Social Sciences, students learn about research methods such as survey design and experimentation. The iPad assists with learning these concepts as students utilize it to access the multitouch iBook, developed by Lynn faculty for this course and to design and conduct research in class. This presentation will display examples of how the iPad furthers student learning in Research Methods, including examples of interactive assignments embedded in the iBook that connects course content with technology, an ever-increasing presence in social research methods.

2:10 - 2:30pm

Involving Undergraduate Honors Student in Interdisciplinary Research

Sago Palm

Lenny Chiang-Hanisko (Florida Atlantic University)

The purpose of this presentation is to highlight the experience of undergraduate honors student participating in a community based interdisciplinary collaborative research project between the College of Nursing and College of Education Department of Exercise Science and Health Promotion. Students enrolled in the Nursing Honors Program conduct pre-approved research under the direction of a faculty mentor, participate in the community based FAU WELL program, and demonstrate the ability to work cohesively within a research team. Students experience the challenges of working on an interdisciplinary team, are exposed to various research methodologies, and present their findings at various forums and conferences.

2:40 - 3:00pm

Debrief

Majestic Palm Room A & B

ACKNOWLEDGEMENTS:

Dr. Evelyn Frazier, 2018 Keynote Speaker

Florida Atlantic University Division of Research

Florida Atlantic University Graduate College

Florida Atlantic University Office of Undergraduate Research and Inquiry

Florida Atlantic University Student Affairs

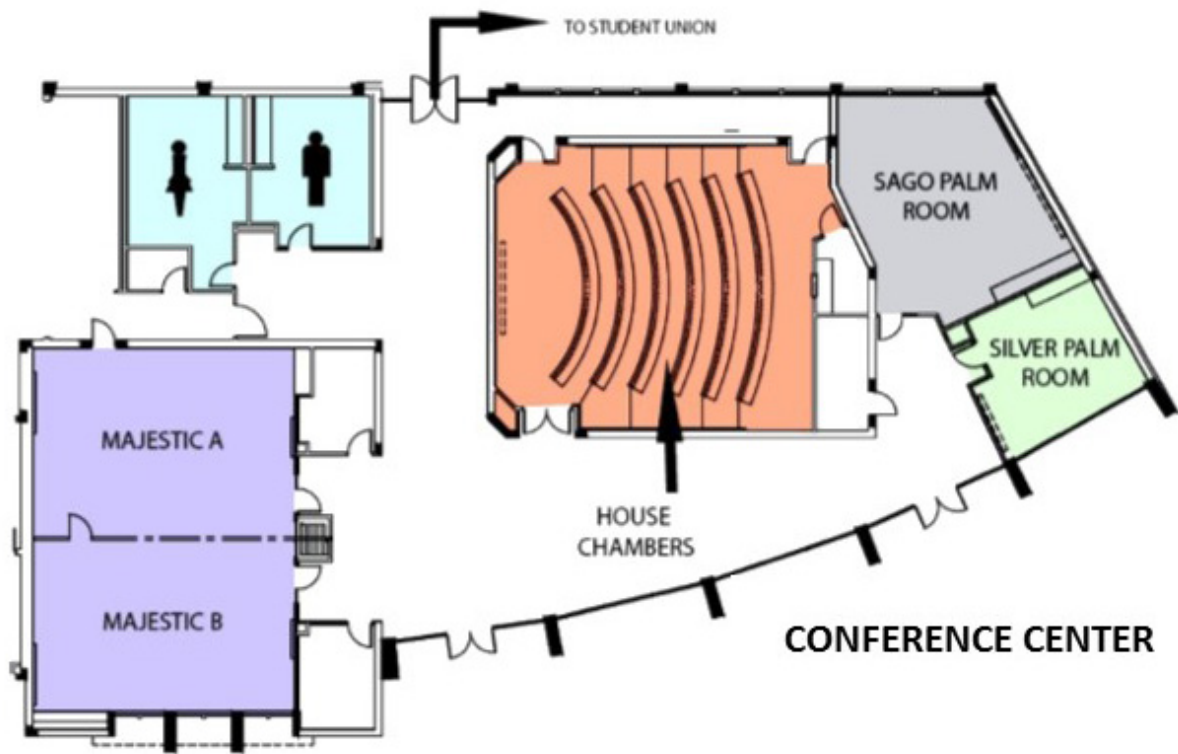
Moderators and Panelists

Symposium Participants and Guests

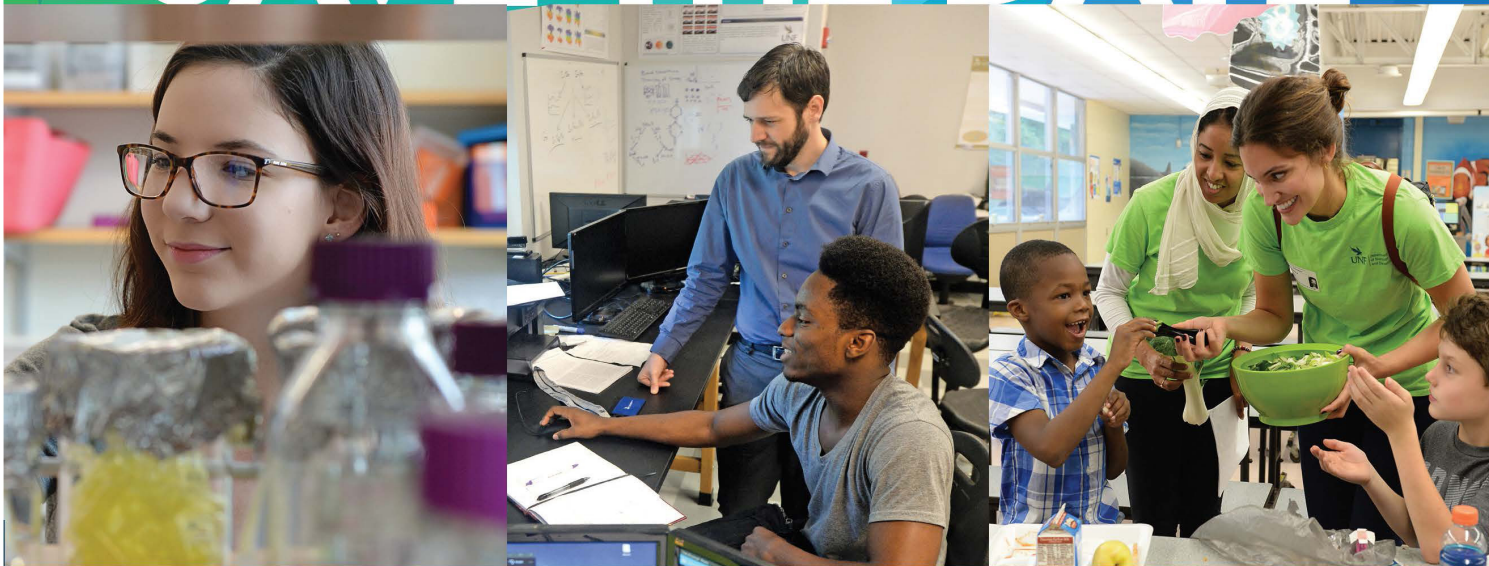
Volunteers

University of Central Florida

MAP & LOCATION:



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