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Student Opportunity Center
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CUR Upcoming Events, membership and publications (to be included as handouts)
Thank you for attending the Conference for Undergraduate Research Programs: Undergraduate Research Collaborations 2017. Its goal is to provide a central forum for champions of undergraduate research programs, to discuss pertinent issues in the field, and to provide an opportunity for seasoned and new colleagues to network and collaborate.

As undergraduate research continues to gain national recognition as a high-impact learning experience, it becomes even more important that we come together to share ideas, strategies, and best practices. Six themes were identified as the most paramount for undergraduate research programs.

- **Assessment**: Presents strategies for evaluating undergraduate research projects, using data to improve the experience or providing feedback for funding support.

- **Diversity in Research**: Offers effective strategies for promoting diversity-serving undergraduate research, undergraduate research that informs diversity issues, and collaborations that have brought in diverging perspectives to undergraduate research.

- **High-Impact Learning Strategies**: Provides methods, approaches, courses, and practices that have proven very effective in achieving learning outcomes that incorporate undergraduate research. This can include the retooling of existing courses, applied research in courses and imbedded research projects within courses.

- **Internationalization**: Incorporates an international element into undergraduate research, including research-based travel, media-assisted collaboration, data exchange, and the mechanics of organizing an international undergraduate research component.

- **Undergraduate Research Administration and Budgeting—Nuts and Bolts**: Describes approaches that have proven effective in managing and organizing undergraduate research and/or in funding that supports the conduct of the research. Budgeting innovations, successful central strategies, institutional support, and so forth are all applicable.

- **Undergraduate Research Collaborations**: Supplies examples of effective partnerships with undergraduate researchers, employing strategies, team projects, and the ethics of collaboration in undergraduate research.

Programming for the conference is organized around these major themes and will be facilitated by program directors, staff, and faculty from a variety of academic disciplines who work with undergraduate research and creative activities. We hope you enjoy this meeting as we explore topics related to undergraduate research at the institutional level.
About the Council on Undergraduate Research

The Council on Undergraduate Research (CUR), founded in 1978, is a national organization of individual and institutional members representing more than 900 colleges and universities. Its primary advocacy is in support of faculty and undergraduate students engaged in research. CUR achieves its vision through efforts of its membership as organized in a divisional structure that includes arts and humanities, biology, chemistry, education, engineering, geosciences, health sciences, mathematics and computer science, physics and astronomy, psychology, social sciences, an at-large division that serves administrators and other disciplines, and a division for directors of undergraduate research programs.

CUR believes that faculty members enhance their teaching and contribution to society by remaining active in research and by involving undergraduates in research. CUR provides support for faculty and student development, and its publications and outreach activities are designed to share successful models and strategies for establishing and institutionalizing undergraduate research programs. The organization assists administrators and faculty members in improving and assessing the research environment at their institutions.

CUR’s leadership also works with agencies and foundations to enhance research opportunities for faculty and students. CUR also provides information on the importance of undergraduate research to state legislatures, private foundations, government agencies, and the U.S. Congress. CUR welcomes faculty, staff, students, and administrators from all academic institutions.

About the Division of Undergraduate Research Program Directors

The Division of Undergraduate Research Program Directors (URPD) serves and supports the needs of faculty, staff, and administrators who support undergraduate research programs on their campuses. We manage new and established programs at diverse institutions, programs that encompass a wide variety of disciplines from the sciences to the performing arts, and initiatives across traditional academic boundaries. This division promotes networking among directors to share ideas and resources, disseminate best practices, and organize workshops and institutes. The division also sponsors a CUR Affinity Group to support the work of members who wish to remain within a disciplinary division in CUR but would like to benefit from the work of the URPD Division.
Acknowledgments

Conference Planning Committee

Vanessa McRae, Conference Co-Chair
University of Central Florida
The Burnett Honors College

Kimberly Reiter, Conference Co-Chair
Stetson University

Bethany Usher, Chair, URPD Division
George Mason University

Local Organizing Committee

MaryLynn T. Quartaroli
Undergraduate Research & Creative Activity Office, Northern Arizona University

CUR National Office Staff

Elizabeth L. Ambos, Executive Officer

Robin Howard, Senior Director
Membership Services, Operations, and Information Technology

Tavia S. Cummings, Manager
Institutes and Meeting Services

Lindsey Thomas, Manager
Student Programs

Pam Dodge, Specialist
Accounting, Grants, and Human Resources

Elizabeth Foxwell, Specialist
Communications

Liz Fray, Coordinator
Membership

Jeffrey D. Johnson, Coordinator
National Office

Additional support generously provided by Northern Arizona University, the Council on Undergraduate Research Endowment Fund, and the Undergraduate Research Program Directors and At-Large Divisions of CUR.

Cover image designed by Jeffrey D. Johnson

Council on Undergraduate Research
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tel: 202.783.4810 / fax: 202.783.4811
www.cur.org / cur@cur.org
Follow CURinAction on Facebook and Twitter
Be a part of it!
CUR-URPD Undergraduate Research Program Directors Division

Who we are

- Group of faculty, staff and administrators who serve as campus directors/leaders/coordinators of undergraduate research;
- Network of colleagues who share expertise, concerns, and information;
- 600+ URPD members;
- We come from all types of institutions: Research Universities, Community Colleges, Liberal Arts Colleges, Regional Universities; Public and Private
- We’re not just for directors. All are welcome!

What we do

- Share expertise via annual CUR and URPD conferences.
- Create initiatives such as peer mentoring network for UR professionals.
- Support mutual learning about best practices and opportunities via CUR Community, newsletter, and meetings.
- Work together to develop innovative approaches to UR.

Get Involved

- Join CUR and select URPD as your division.
- Present at CUR 2018 (Crystal City, VA, near Washington, DC)
- Write articles for URPD Newsbriefs
- Support mutual learning about best practices and opportunities via listserv, newsletter, and meetings.

Connect

- E-mail Bethany Usher (busher@gmu.edu), Division Chair
- Join the CUR Community Page: community.cur.org
- Contribute to CUR institutes and initiatives.
- Run to be a CUR URPD Councilor
Dear Council on Undergraduate Research Community:

Welcome to Northern Arizona University!

We are honored to be your host, and have worked hard to ensure you are able to do your work and enjoy this time on our campus and in the Flagstaff community.

You are involved in developing and improving undergraduate research opportunities on your own campuses; I hope you will use this conference as an opportunity to share best practices and lessons learned with other program directors and faculty.

I encourage you to follow the conference theme “Undergraduate Research Collaborations” to engage in meaningful conversations, attend a wide variety of presentations, and take advantage of the collective knowledge available during your stay on our campus. There are no shortage of subjects to be covered in the session strands: assessment, diversity in research, high-impact learning strategies, internationalization, nuts and bolts of undergraduate research administration and budgeting, and undergraduate research collaborations.

At NAU, we take great pride in offering exceptional service, ample resources, and an outstanding experience to ensure a memorable and productive meeting. Because of NAU’s rich educational contributions, Flagstaff is recognized as the third best college town in the nation. We are also a gateway to world-class attractions, outdoor adventure, Route 66 history, and Native American Heritage and culture, as well as several “off the beaten path” destinations. I hope you will have the opportunity to explore and enjoy while you are here.

Our students choose NAU because our faculty seek a connection to them, and includes them in innovative research and education. Students come here because we provide an academic challenge at every level, and because our community embraces them for the enthusiasm they bring. And often, they stay here. There are more than 93,000 NAU alumni living in Arizona. In Flagstaff, 50% of the households have an NAU graduate – a stunning number that means our alumni continues to add to the vibrancy and quality of life here.

Our students are reflective of Arizona’s diverse population, bringing a vibrant mix of ethnic diversity. Our Native American students represent 127 tribes, and our ties to Native American communities continue to grow stronger. Our international student population has more than tripled in the last 10 years, and students have come to NAU from 78 countries around the world.

Global Engagement activities are at an all-time high with new partners in Russia, China, India, and Mexico, and we are working on agreements with Finland, Poland, Russia, Azerbaijan, Denmark, Japan, India, and China. This year, our Interdis-
Disciplinary Global Program was one of only eight recipients of the Andrew Heiskell Awards for Innovation in International Education.

NAU is committed to expanding the boundaries of knowledge to improve lives and the possibilities inherent in discovery and innovation. We are evolving our programs to ensure our degrees align with the newest and best possibilities, ensuring that we meet the dynamic needs of tomorrow’s workforce by investing in research and programs that create the foundation for the future.

Undergraduate research is the core element of our student’s success. We continue to see increases in participation in our annual undergraduate research symposium, and have experienced that same growth in our honors college. The success of our efforts is reflected in our students’ awards and recognitions, including the Udall Undergraduate Scholarship, several Goldwater Scholars, and selection for Posters on the Hill.

NAU has long been known as a leader in research areas important to our region, including astronomy, national security, microbiology, and environmental science, and land, forest, and watershed management. Our research is also expanding into new areas, enhancing NAU’s influence statewide and nationwide.

At 7,000 feet, we attract international athletes for high altitude training – so don’t be surprised if you see a few gold medal Olympians or our National Champion Cross Country team running by while you are on our campus.

We hope you will have the opportunity to explore NAU and Flagstaff while you are here and learn that we care about our students, our community, and our faculty and staff. We are committed to innovation, discovery, and service, and are eager to collaborate with you during this conference to expand and improve undergraduate research opportunities.

We hope you enjoy your time with us!

Sincerely,

Rita Hartung Cheng
President
# Schedule at a Glance

## Tuesday, June 27

**WELCOME and POSTER SESSION**: 6:00 pm–8:00 pm; Humphries Ballroom Foyer, High Country Conference Center (HCCC)

## Wednesday, June 28

**BREAKFAST**: 7:00am–8:30am; Humphries Ballroom

<table>
<thead>
<tr>
<th>SESSION 1:</th>
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<tbody>
<tr>
<td><strong>Seminars</strong></td>
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<td>8:30 am–9:45 am</td>
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<tr>
<th>1899 North Union Building</th>
<th>Agassiz Room HCCC</th>
<th>Doyle Room HCCC</th>
<th>Fremont Room HCCC</th>
<th>Rees Room HCCC</th>
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**BREAK and NETWORKING**: 9:45 am–10:00 am

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<th>1899 North Union Building</th>
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### SESSION 2:

**Short Papers**

10:00 am–11:45 am

<table>
<thead>
<tr>
<th>Undergraduate Research Administration and Budgeting—Nuts and Bolts</th>
<th>Undergraduate Research Collaborations</th>
<th>High-Impact Learning Practices</th>
<th>Undergraduate Research Administration and Budgeting—Nuts and Bolts and Assessment Strategies</th>
<th>Diversity and Internationalization</th>
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**LUNCH**: 11:45 am–1:15 pm; Humphries Ballroom

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<th>1899 North Union Building</th>
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### SESSION 3:

**Short Papers**

1:15 pm–2:30 pm

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<th>Undergraduate Research Administration and Budgeting—Nuts and Bolts</th>
<th>Undergraduate Research Collaborations</th>
<th>High-Impact Learning Practices</th>
<th>Assessment Strategies</th>
<th>Diversity and Internationalization</th>
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</table>

**BREAK and NETWORKING**: 2:30 pm–2:45 pm

### SESSION 4:

**Seminars**

2:45 pm–4:00 pm

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**POSTER SESSION**: 4:15 pm–6:15 pm; Humphries Ballroom Foyer, High Country Conference Center (HCCC)

**Dinner on your own with Friends**: Sign-up sheets at registration desk.
Thursday, June 29

**BREAKFAST:** 7:00 am–8:30 am; Humphries Ballroom

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<th>SESSION 5:</th>
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<td>Seminars</td>
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<td>8:30 am–9:45 am</td>
<td>Bright Angel</td>
<td>Clear Creek</td>
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**BREAK and NETWORKING:** 9:45 am–10:00 am

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<th>SESSION 6:</th>
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**LUNCH:** 11:30 am–1:00 pm; Humphries Ballroom

(Please remember to check-out of the residence hall by Noon if you are scheduled to depart on this day.)
*Catherine Vrentas, Frostburg State University*

Although distance learning programs provide diverse new opportunities for students and faculty in laboratory-intensive fields like biology, distance students are limited in their ability to participate in authentic research experiences due to physical constraints. Similarly, students and faculty at primarily undergraduate-serving institutions in rural areas can be constrained by distance in their ability to establish research collaborations with larger institutions. Here, a pilot virtual bioinformatics research program will be presented in which undergraduate students at a rural, public comprehensive university analyzed sequence data generated as part of a larger-scale genetic screen. Structure and implementation will be described. A framework also will be proposed for the expansion of this concept into networks of collaborating institutions of disparate locations and levels of research funding, including description of potential benefits.

**THEME: Undergraduate Research Collaborations**

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**[2] Establishing a STEM International Undergraduate Research and Scholarly Exchange Program**  
*Isabelle Lagadic, Northern Kentucky University*

Providing STEM undergraduate students with study abroad experiences can be particularly challenging, as STEM curricula are sequential and tight. Research abroad programs represent attractive opportunities to expose STEM students to today's globalized environment. Over the past five years, the Northern Kentucky University (NKU) International Research & Scholarly Exchange Program (IRSEP) has exchanged STEM students with partner institutions in Ecuador, France, and Romania to conduct summer research. Since 2011, NKU research groups in biology, chemistry, computer science, and physics have hosted 44 students from these institutions, and 10 NKU STEM students have joined research groups overseas. This presentation will highlight the challenges and rewards of this program and will provide the audience with key information for the smooth and successful implementation of similar programs.

**THEME: Internationalization**

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**[3] High-Impact Undergraduate Research at Utah Valley University**  
*Rasha J. Qudisat, Utah Valley University*

Utah Valley University is developing a comprehensive undergraduate research, scholarship, and creative activities initiative funded by a DOE Title IIIA grant. The intention is to demonstrate the effect of these efforts on student success and includes the establishment of a core faculty research leadership team, comprehensive faculty development workshops, a faculty research-mentoring academy, and inclusion of the undergraduate research curriculum in strategic gateway courses. In addition, an engagement measurement instrument is being developed and validated that will assess the level and type of course engagement. Data will be presented on the success of several initiatives. Early results from the engagement instrument suggest that there is a significant relationship between course academic engagement with community engagement, correlated with course completion.

**THEME: High-Impact Learning Strategies**
<table>
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<tr>
<th>[4] Incorporating Research and Evidence-Based Medicine into Athletic Training Education</th>
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<tr>
<td>Rachele Elizabeth Vogelpohl, Northern Kentucky University</td>
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<tr>
<td>Within the undergraduate athletic training program, research is incorporated throughout the curriculum, culminating in an original research project. A junior seminar course reviews the research process and ways to critically analyze research. Course assignments throughout the junior and senior years require students to complete a review of the literature and case-study papers. In the senior seminar course, student groups are formed, and each group chooses a research question created by faculty. These research questions align with the faculty line of research. The student groups work closely with faculty members on all aspects of the original research process. Students then present their research to peers prior to graduation. Incorporating research into courses throughout the curriculum exposes the students to several different types of research.</td>
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**THEME:** High-Impact Learning Strategies

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<tr>
<th>[5] Creating Faculty-Student Research Mentorships through Research Proposals Presented in a Poster Session</th>
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<tr>
<td>Stephanie Rahill, Georgian Court University</td>
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<td>Students enrolled in a graduate-track research methods class in psychology designed research proposals that were presented in a public poster session. Faculty members and psychology majors were invited to attend the poster sessions to learn about the research proposals. The goals were to (1) motivate other psychology students to participate in the research process and (2) to match psychology faculty and the student researchers with similar interests. Several students were successfully matched with faculty members and will be conducting their research through an independent research course in the next semester. This poster will detail how to foster faculty-student mentorships through a public poster session. Anecdotal evidence about the perceptions of the event from student attendees also will be presented.</td>
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**THEME:** High-Impact Learning Strategies

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<td>Brent D. Bowen</td>
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<td>A new Virtual Collaboratory (a research center without walls) will focus on analytic approaches to solving problems in the air transport industry and regulatory environments. This Virtual Collaboratory provides an example of research and collaboration without regard to physical location of researchers and collaborators, offering a good model that other organizations can replicate. The methodology includes model-building and case-study examples. Critical research will take place at the center through the collaboration of varied disciplines of faculty and undergraduate researchers. This center is innovative in its multidisciplinary approach, providing a vast array of research services spanning all areas related to air transportation.</td>
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**THEME:** Internationalization

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<th>[7] Promoting Undergraduate Research on Social Media with Student Takeovers</th>
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<tr>
<td>Lizzy King, Michigan State University</td>
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<td>In today’s technology-driven world, it is important to embrace social media as a medium to engage with others. This allows us to meet students where they are while connecting with staff, faculty, and alumni. This poster will detail the results of implementing social media takeovers by undergraduate students at Michigan State University. The primary goal was to increase engagement across campus in content that relates to undergraduate research by allowing students to curate and share their experiences directly with online audiences. Each student took a unique approach to sharing his or her story, ranging from photos of summer research experiences to “day in the life” live-video posts. Transferring control to students allowed for more effective engagement with the audience, which increased followers on each platform.</td>
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**THEME:** Undergraduate Research Administration and Budgeting—Nuts and Bolts
### Diversity in Undergraduate Research: The Transfer Student Experience

**Latika L. Young, Florida State University**

Transfer students encounter challenges that may result in low retention upon matriculation to a university (Fauria and Fuller 2015; Duggan and Pickering 2008). Additionally, transfer students have difficulty integrating into the research ecosystem with enough time to fully engage before graduation. Two years ago, FSU expanded its Undergraduate Research Opportunity Program (UROP) to target transfer students, who bring with them a diversity of experiences and knowledge that inform unique research perspectives. In the UROP transfer sections, these students engage in small, interdisciplinary colloquia facilitated by UROP leaders (often previous UROP transfer students) while completing a research assistantship with a faculty mentor. This poster will present a preliminary formative evaluation of the transfer student experience and outcomes of participation in UROP at FSU.

**THEME: Diversity in Research**

### Gemstone Honors Program: Undergraduate Research Collaboration through Teams

**Jessica Lee | Kristan C. Skendall, University of Maryland–College Park**

The Gemstone Honors Program engages students in an academically rigorous and rewarding undergraduate research experience through an interdisciplinary team approach. In partnership with extraordinary faculty, Gemstone research teams advance knowledge and explore society’s urgent questions. Gemstone challenges and supports student growth and learning in a community that instills the enduring values of leadership, mentorship, and relationship building. This poster will provide an overview of the program and highlight the successful undergraduate research collaboration model employed by the Gemstone Honors Program with relevant research findings.

**THEME: Undergraduate Research Collaborations**

### Meet Your Mentor: A Social Event to Match Faculty and Student Research Interests

**Frances Chi-Hui Shen, University of Illinois at Springfield**

With the expansion of undergraduate scholarly and creative activities on campus, matching students with faculty mentors in their area of interest is becoming more challenging. This presentation will describe the development of a Meet Your Mentor event, an ice cream social and trivia night held early in the fall semester that educates students about undergraduate research opportunities and resources on campus, as well as matches students with faculty mentors. Co-sponsored by the Undergraduate Research Support Program and the Research Society at the University of Illinois at Springfield (a student club), the event invites faculty and students through a campus-wide advertising campaign. Faculty submit a trivia question, and correct answers earn students treats. Details on the design of this event and some success stories will be provided.

**THEME: Undergraduate Research Collaborations**

### Comparison of Strategies Used to Support Undergraduate Research in Computer Science and across Disciplines

**Jeremy Straub, North Dakota State University**

This poster will present and evaluate undergraduate research of several types, comparing and contrasting the logistical difficulties and benefits of each approach. These include a course that taught project management skills to computer science undergraduates while they worked on a research project for-credit research, course-embedded research, paid research, and extracurricular research. Topics for this work have included small satellite multidisciplinary research, computer science-specific cybersecurity research, multidisciplinary 3D-scanning research, and student-selected research topics. For each project and each type of undergraduate participation, the required resources, logistical considerations, benefits, and drawbacks will be discussed. Best practices (those specific to each approach and those generally applicable across approaches) as well as the value of multi-institution collaborative projects also will be presented.

**THEME: High-Impact Learning Strategies**

**Ruth J. Palmer | Rebecca McMullen**  
**The College of New Jersey | Fort Valley State University**

Student engagement in undergraduate research in professional schools, including schools of education, requires creative curriculum design and innovative pedagogical approaches that address issues related to faculty involvement and student participation. These efforts generate multiple outcomes, including the course-integrated research approach and faculty-student collaboration opportunities in summer research programs and at conferences. It is critical now to push beyond those boundaries and intentionally target access to undergraduate research for all education majors; this requires the identification of approaches that will serve to increase, sustain, and enhance student participation and continuing engagement throughout their education programs. The CUR Education Division has undertaken that challenge, and this poster aims to share with participants a range of approaches with corresponding assessment methods, which are available to expand student engagement.

**THEME:** High-Impact Learning Strategies


**Scott C. Mateer, Armstrong State University**

An authentic research experience was implemented in a multi-section, undergraduate laboratory course in introductory biology. Students use molecular techniques to screen local insects for novel strains of the endosymbiont Wolbachia. Students collaborate to conduct literature reviews, develop hypotheses, collect and analyze data, and communicate their results. Since August 2013, this curriculum has been introduced in 151 lab sections (on two campuses), affecting approximately 3,600 STEM and allied health students. According to survey data, students have increased confidence in quantitative analysis, technical skills, scientific communication, and information literacy. Objective assessments indicate student gains in understanding molecular biology concepts and skills as well as the interdisciplinary nature of science.

**THEME:** High-Impact Learning Strategies

### [14] Encouraging Collaboration in Undergraduate Research

**Violeta Vasilevska, Utah Valley University**

Highlighted are two types of collaborations in undergraduate research: between the faculty mentor (presenter) and the undergraduate students, and among the undergraduate researchers themselves. In addition, the presentation will showcase a few aspects of the undergraduate research conducted by the presenter: the conduct of the research and the collaborations, the role of mentor, the differences in the collaboration among various research groups, and the ways that challenges were overcome. Furthermore, the poster will display evidence of the impact of the undergraduate research collaboration on student learning, as well as the ways in which successes and failures were handled.

**THEME:** Undergraduate Research Collaborations


**Richard Alan Wildman, Quest University Canada**

In the past three years, the Quest University Research, Scholarship, and Creative Works Committee has accepted approximately $80,000 from two local corporations related to the oil and gas industry. This has created irreplaceable opportunities for 11 students. In an environmentally-conscious city, this has also presented some new challenges. Activist groups have denounced student work as illegitimate, students have struggled to credit their funders in front of environmental audiences, and the university has accidentally promoted opposition groups. Consequently, several lessons have been learned about managing student expectations and communication across the university. The corporations, which fund student work through their corporate social responsibility budgets, prioritize applied and relatable work; thus student projects also have needed to be created that are both academically rigorous and externally attractive.

**THEME:** Undergraduate Research Administration and Budgeting—Nuts and Bolts
[16] Evaluate UR: A Robust Approach to Assessing Student Development Obtained through Intensive Undergraduate Research Experiences

Elizabeth L. Ambos, Council on Undergraduate Research

Assessment of undergraduate research (UR) is both a CUR strategic pillar and an imperative for most undergraduate research program directors. With funding from the NSF Division of Undergraduate Education’s WIDER program (13-47681, 13-47727), usage of a robust, well-tested, and evidence-based evaluation model for guiding intensive UR (EvaluateUR) is being scaled up at the national level. EvaluateUR was developed by Jill Singer and colleagues at SUNY Buffalo State, has been studied intensively at that institution, and has proven effective with both new and experienced faculty mentors from a wide range of academic disciplines. Robust response to national pilot-site recruitment in 2016 led to selection of 16 institutions that will pilot EvaluateUR in 2017–2018. Opportunities for additional institutions to participate are available.

THEME: Assessment

[17] Undergraduate Research in Education: A Range of Possibilities

Deborah L. Thompson | Ruth J. Palmer, The College of New Jersey

Education majors are notably underrepresented in undergraduate research (UR) programs. Considering the outstanding benefits of UR for students, it is important for teacher education programs to incorporate UR into the curriculum to prepare future educators to most effectively teach the next generation of students. When education majors engage in UR, they refine their teaching skills, develop an appreciation for research, broaden their knowledge of the discipline, and enhance their understanding of the relationship between educational theory and practice. Faculty mentoring undergraduate researchers in education stress the importance of disciplinary models and definitions of research that include the scholarly practices of educators within the field. This poster will share a range of possible models, methods, and examples of UR in education compiled by Education Division councilors.

THEME: High-Impact Learning Strategies

[18] Use of Focus-Group Discussions to Understand the Mentored Research Experiences of Undergraduate Students

Kwadernica Rhea, Louisiana State University

In 2016, the Quality Enhancement Plan at Louisiana State University used seven focus-group discussions (n = 39) to determine the factors that enabled undergraduates to participate in mentored undergraduate research (MUR) or barred them from participating in MUR. Students participating in MUR solicited faculty support or accepted faculty requests to participate. Themes included having knowledge of extrinsic goals for participating in MUR, viewing MUR as a valuable educational experience for undergraduates, and participating in MUR because of social influences. Students also demonstrated knowledge of MUR opportunities and had the ability to identify specific aspects of MUR. Time, however, was identified as a barrier, even for students currently engaged in MUR. Information from the focus-group discussions will be used to inform and improve the current undergraduate research program.

THEME: Assessment

[19] Creating Inclusive and Socially Just Undergraduate Research Programs

Jenny Olin Shanahan, Bridgewater State University

Despite vast evidence that students from underserved groups benefit most from undergraduate research (UR), research shows that students from advantaged backgrounds still have disproportionate access to this high-impact practice. The inequity persists for many reasons, from unconscious bias about who is prepared for scholarly work to systemic barriers in funding and recruitment. Based on analysis of identity theories, a review of the literature on underrepresented students in UR, and surveys and interviews conducted at Bridgewater State University where two-thirds of undergraduate researchers are from underserved groups, five areas of focus have been identified for URPDs and faculty mentors who are committed to ensuring equitable access to UR: intentional recruiting, bridge-building between home and academia, alleviating racial battle fatigue, committing to long-term relationships, and power-sharing and advocacy.

THEME: Diversity in Research
[20] The Health Research Program: Developing a New Undergraduate Research Program at an Academic Health Center

Caroline McGuire, University of Connecticut

In 2016, the University of Connecticut’s Office of Undergraduate Research was charged with the development of a program to increase undergraduate engagement in research at UConn Health, an academic health center located 35 miles from the university’s main campus. This poster will illustrate the program development process used to create the Health Research Program, including student and faculty surveys, consultation with stakeholders, and the establishment of program processes and documentation. The analysis of this process highlights the challenges inherent to developing new programs as well as specific considerations for initiatives that involve undergraduates in off-campus research during the academic year.

THEME: Undergraduate Research Administration and Budgeting—Nuts and Bolts

[21] Professional Development Workshops and Student Events of the Council on Undergraduate Research: A Resource for the Undergraduate Research Community

Tavia S. Cummings | Lindsey Thomas, Council on Undergraduate Research

The Council on Undergraduate Research (CUR) offers faculty, administrators, and students a variety of professional development opportunities, including conferences, workshops, specialized consultancies and program reviews, and mentoring networks. For faculty and administrators, these offerings assist individuals and teams to engage in undergraduate research expansion and in creating institutional cultures, curricula, and infrastructure to support faculty-student engaged research, scholarship, and creative activities. For students, these conferences offer an opportunity for undergraduate scholars to celebrate and promote their exemplary research and scholarship while receiving professional development. In addition to these formal programs, CUR provides customized institutes, program review, and speaker recommendations. Information about upcoming events and opportunities to host a workshop will be provided.

THEME: Undergraduate Research Collaborations

[22] Linking Enzymology and Health by Studying the Enzyme Activity of Yoghurt

Tahl Zimmerman, North Carolina A&T State University

We present a research experience developed in order to help undergraduates in the Food Sciences make the link between enzymes, probiotics, and health. The lactase activity of strains found in yoghurt is linked to the reduction of lactose intolerance. However not yoghurts have the same composition. Students joined an ongoing research project where they determined the strain composition of commercial yoghurts (comparing it to the expected composition) and measured the lactase activity of bacteria present as a measure for their potential to treat lactose intolerance. Students studied one of the beneficial properties of lactic acid bacteria and as a consequence gained a better understanding of enzyme function. This experience also opened discussions on the health properties of probiotics and species found in the human microbiome.

THEME: High-Impact Learning Strategies

April 4-7th, 2018
University of Central Oklahoma
Submissions due: December 5th, 2017
For more information visit: http://www.cur.org/ncur_2018/
L.E.A.R.N.: An Initiative to Improve Retention of STEM Freshmen and Transfer Students through Research Communities.
Location: 1899 Ballroom

Donna Chamely-Wiik | William R. Kwochka | Michael Aldarondo-Jeffries
Florida Atlantic University | Western Carolina University | University of Central Florida

Increasing Science, Technology, Engineering, and Mathematics (STEM) retention is a national priority; a need has been identified to establish retention models that can be adapted to varying types of students and institutions. Faculty at Florida Atlantic University (FAU), University of Central Florida (UCF), and Western Carolina University (WCU) have collaborated to implement the STEM retention model Learning Environment and Academic Research Network (L.E.A.R.N.) for both freshmen (F-LEARN) and transfer (T-LEARN) students. Both models include core components of early engagement in research, faculty and student mentorship, and ways to build community. The presenters will discuss the F-LEARN and T-LEARN programs, share strategies for effective collaborations and implementation, and provide preliminary data on the effectiveness of these models at affecting STEM retention and success.

THEME: Undergraduate Research Collaborations

Increasing Potential and Widening Horizons: Promoting Undergraduate Research at a Two-year Regional Campus
Location: Agassiz

Sarah Sellhorst | Elizabeth Easley, University of South Carolina Lancaster

Drs. Easley and Sellhorst will share their unique experiences with the creation and implementation of a student organization to address the student-faculty engagement issues on their primarily commuter-based campus. The purpose of this presentation is to show how a student organization can be utilized to engage first and second year students and faculty in a culture of research across disciplines. We will present strategies to overcome barriers and increase freshmen and sophomore participation in research opportunities. Within this presentation, practical advice will be given on a proven model to maximize the undergraduate research potential of your campus, increase faculty collaboration and produce stronger student research outcomes.

THEME: Undergraduate Research Collaborations
Community-Based Participatory Research as A Way to Promote Inclusivity in Undergraduate Research
Location: Doyle

Anne Harper | Anne Charity-Hudley, The College of William and Mary

As we faculty, administrators, and program directors encourage undergraduate students to participate in research, we must ask ourselves questions about the relationship between our students and our research environments. Do all students feel welcome and comfortable in the research environments at our universities? How do we know? What role does fear of not knowing what to do or of not knowing each other play in student engagement with research? In this interactive session, we will share the inclusive undergraduate research model we have developed in response to these questions and encourage participants to adapt this model to their own universities. Strategies from our model that we will illustrate include community-based models, intentional selection of faculty mentors, and collaboration with existing student support structures.

THEME: Diversity in Research

Undergraduate Research for Ensuring Retention and Academic Success: Replicating an Innovation Model
Location: Freemont

Angela M. Locks | Catalina Ormsby
California State University–Long Beach | University of Michigan–Ann Arbor

The Undergraduate Research Opportunity Program (UROP) at the University of Michigan improves student retention; this high-impact practice program is the national model of undergraduate research. Led by UROP alumni and their colleagues, two teaching, minority-serving institutions are adapting UROP to their primary teaching-focused campuses. The program at the University of Michigan, CSU–Long Beach, and San Jose State University will be presented as a model for other campuses to consider. Facilitators will address how UROP can be implemented to provide transition to college support for diverse students and a collaborative platform for student affairs and academic affairs professionals, which can offer a high-impact practice that garners internal and external financial support. Attendees will brainstorm on how they might adapt UROP (most commonly used at small liberal arts colleges and research-intensive institutions) to their own environments, completing a needs assessment exercise and other exercises that will identify potential collaborators in their campus community.

THEME: Diversity in Research

Bringing Efficiency, Synergy, and Innovation to Undergraduate Research Program Administration
Location: Rees

Patrick X. Rault | Nura Dualeh | Kimberly Sierra Cains | Donna Treluar, University of Arizona

This session will describe some of University of Arizona’s undergraduate research initiatives that range from single programs in one department and a grouping of three or four programs managed by one department to a multi-college, multi-departmental consortium composed of 10 summer research programs, including an international summer research program that brings Latin American undergraduate scholars to the university. As more programs pool resources and work across departments, staff time and budgets are shared to provide a greater range of faculty-supervised research opportunities to students and to engage students in an intensive, graduate school preparation experience. Over the last two decades, the UA Graduate College has built a cost- and resource-sharing consortium of institutionally funded, NIH-funded, and NSF-funded undergraduate research programs. Together, they serve 120 students per year. By collaborating, the programs can offer joint workshops and seminars on public presentation skills, graduate admissions, funding, and a GRE preparation course that allows students to study together and take the GRE test during the summer. Team members also partnered on establishing a pipeline program that provides support and early exposure to research to increase the applicant pool of underrepresented, first-generation, college and Pell-eligible STEM applicants for these programs. The innovations in program administration and budgeting that allows for an effective and efficient response to growing student interest in research and the reality of diminishing resources will be discussed. The audience will engage in a group discussion to explore the advantages and disadvantages of program collaboration and resource sharing, as well as to determine the optimal next steps for expanding this administrative model to serve academic-year undergraduate research initiatives.

THEME: Undergraduate Research Administration and Budgeting—Nuts and Bolts

BREAK AND NETWORKING: 9:45 am–10:00 am; Humphries Ballroom
Session 2—Short Papers  
Wednesday, June 28  
10:00 am–11:45 am

### Undergraduate Research Administration and Budgeting—Nuts and Bolts—1899 Ballroom

**Julie Lyon, Google People Operations, session chair**

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| Lizzy King | Ashley Schryer  
Michigan State University | University of South Carolina–Columbia |

**10 Things You Need to Know About Starting an Ambassador Program**

Peer leadership provides numerous benefits to students as they navigate their academic careers and professional futures. As undergraduate research programs continue to grow and institutional and state funds decrease, peer leaders provide a vital and low-cost resource. This session will focus on how to utilize undergraduate research peer leaders in ambassador programs that promote and explain undergraduate research to students. During this session, panelists will highlight 10 things to know when starting an peer leader program. These tips include areas related to recruitment and selection, training and development, assessment and evaluation, and risks and challenges, including the benefits and best practices of incorporating peer leaders into undergraduate research offices as a way to share their message, market to students, and educate peers.

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<td>Lynda Szymanski, St. Catherine University</td>
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**Engaging Alumnae in Collaborative Research: Outreach, Connections, and Rewards**

St. Catherine University, a comprehensive institution with a baccalaureate women’s college at its center, has a dynamic and engaged local alumnae network. The university’s Collaborative Research Program has forged meaningful relationships with alumnae to make connections with students, increase their involvement in the academic community, and promote awareness of the program. Alumnae facilitate workshops for students that assist them in preparing effective oral presentations, attend students’ practice presentations for NCUR, participate in the end-of-summer scholarship celebration, and nominate faculty for the annual mentor-of-the-year award. The multiple benefits for students, alumnae, and the university as well as strategies for managing some of the challenges will be discussed.
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<th>Time</th>
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| A-3 10:30 am–10:45 am | **Undergraduate Research Funding and Budgeting Innovations and Strategies:**  
**Case Studies from University of Wisconsin System Campuses** | Lissa Schneider-Rebozo | Catherine Chan | Karen G. Havholm | Julie L. O’Leary  
University of Wisconsin–River Falls | University of Wisconsin–Whitewater | University of Wisconsin–Eau Claire | University of Wisconsin–Superior |

University of Wisconsin System campuses range widely in funding models for undergraduate research programs and budget strategies. Funding sources vary significantly, with some programs funded primarily by their provost or general program revenue (GPR—state, tuition funds); some receiving nearly all funding from differential tuition; some relying on alumni gifts, state grants, or federal grants; and others managing programming through a combination of gifts, GPR, differential tuition, grant funding, and overhead. Creative strategies for developing new funding and shepherding existing resources include collaborations with other units to increase program efficacy, grassroots support, and participation; engaging alumni and donors; and collaborating with students, System leaders, elected officials, businesses and colleagues on other UW campuses.

| A-4 10:45 am–11:00 am | **Developing STEM Pathways with Undergraduate Research/K–12 Partnerships** | Jack F. Shelley-Tremblay, University of South Alabama |

The Office of Undergraduate Research at the University of South Alabama has been developing a number of programs that support the development of a STEM pipeline through undergraduate research (UR). The programs include UR students as science fair judges, education programs for science fair mentors, a centralized opportunity database for high school researchers with standardized application, high school events such as the Alabama Academy of Sciences/Junior Academy of Science and the development of a dual-enrollment mechanism for UR research experiences with a zero credit hour/zero-cost model. This presentation will outline the development of these programs and provide suggestions for implementing similar programs at other institutions and in other communities.

| A-5 11:00 am–11:15 am | **Analytical and Technological Best Practices in the Assessment of an Undergraduate Research Program** | Patrick J. Killion, University of Maryland–College Park |

The University of Maryland (UMD) initiated a major new program in 2014–2015 to provide authentic faculty-led research experiences, mentorship, and accelerated opportunity for first-year freshmen from a wide range of academic backgrounds. The UMD First-Year Innovation & Research Experience (FIRE) provides first-year students authentic research experience, broad mentorship and institutional connections that affect academic success, personal resilience, and professional development. The FIRE mission includes focused attention on undeclared, non-honors, and transfer student populations in order to increase academic success, expose students to less traditionally considered academic units and accelerate student professional development. This session will focus on analytical and technical principles related to the assessment of this program including data transparency, flexibility, repeatability of analysis, data provenance, collaboration, and error detection.

| 11:15 am–11:45 am | Discussion |
**Undergraduate Research Collaborations—Agassiz Room**

Charles Gunnels, Florida Gulf Coast University, session chair

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<th>Time</th>
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<tr>
<td>B-1 10:00 am-10:15 am</td>
<td>Robert V. Reichle, The University of Texas at Austin</td>
<td>Student Research Showdown: Promoting Student Achievement through a Research Communication Competition</td>
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<td>B-1 10:15 am-10:30 am</td>
<td>Laura Rabin, City University of New York–Brooklyn College</td>
<td>Effective Partnerships: Pairing High School Teachers with Faculty Mentors to Enhance Research Training and Competence</td>
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<td>B-1 10:30 am–10:45 am</td>
<td>Tonya R. Hargett, North Carolina A&amp;T State University</td>
<td>Pairing Strategies for Undergraduate Research Collaboration at North Carolina A&amp;T State University</td>
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<tr>
<td>B-1 10:45 am–11:00 am</td>
<td>Michael Butros, Victor Valley College</td>
<td>Engaging STEM Students through Partnerships</td>
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Student researchers are rarely trained to explain their work’s relevance but must do so throughout their careers. To help undergraduate researchers at UT–Austin tell their stories to a general audience, the Texas Student Research Showdown, a video and presentation competition, was created. Students create brief research videos voted on by their peers, and the top video creators face off with short talks judged by an academic panel awarding prizes. The event allows UT’s Office of Undergraduate Research to collaborate with students, resulting in mutually beneficial deliverables (videos), training in research communication, and dissemination of research. This session will discuss implementation, how a such an event supports student ownership of research, and success stories of showdown finalists.

The central component of the Research Experiences for Undergraduates (REU) Program at Brooklyn College is a semester-long laboratory immersion, under the close supervision of faculty mentors, which results in a completed first-authored research poster. In conjunction with lab work, students attend weekly REU-specific didactics, including a journal club that teaches students how to select, read, critically analyze, and summarize original research papers and a statistics seminar focused on analyzing data, statistical reasoning, and presenting results in academic contexts. The benefits of pairing mentored lab work with coursework will be described such as fostering the development of a strong scientific identity and sense of belonging to the scientific community, increasing students’ ability to read and critically evaluate research literature, and increasing students’ facility in communicating about their work.

This session will describe the pairing strategies utilized by the Office of Undergraduate Research at North Carolina A&T State University to match students with faculty conducting sponsored research. Discussed will be the collaborative efforts of the university’s Office of Sponsored Programs and the Division of Research and Economic Development that allow for effective pairing of students with opportunities on campus.

To engage STEM students in undergraduate research opportunities and to increase interest in STEM fields, a partnership among Victor Valley College, California State University, and NASA Armstrong Flight Research Center was established through an NSF-CREST grant. This presentation will discuss two aspects of this partnership: "Winternship" at Victor Valley College and summer internships at NASA AFRC.
### B-5 11:00 am–11:15 am

**Sarah M. Misemer | Sumana Datta, Texas A&M University**

**Expanding Successful STEM Teams and Creating Similar Team-Based, Partnership-Supported Humanities Scholars Programs**

Undergraduate research in STEM is highly successful in part due to the collaborative, team-based nature of the culture, enabling faculty to mentor several undergraduates at once and encouraging sharing of subject matter and technical expertise between students and researchers. The relatively high level of research funding in STEM fields provides greater resources for the support of personnel, equipment, and supplies. To obtain these advantages for humanities scholarship, the team-based Glasscock Summer Scholars Program was established, and a Summer Philosophy Camp Program is in development. Such programs provide the advantage of a team approach for humanities, while enabling funding, space, expertise, and visibility to be leveraged in collaboration with other university units and programs. These programs may provide credit toward faculty merit, tenure, and promotion.

### 11:15 am–11:45 am Discussion

**High-Impact Learning Practices—Doyle Room**

*Jenny Olin Shanahan, Bridgewater State University, session chair*

### C-1 10:00 am–10:15 am

**Erica J. Friedman, Farmingdale State College**

**The Research-Aligned Mentorship Program: Low-Cost, High-Impact Strategies for Undergraduate Research at Farmingdale State College**

Farmingdale State College received a 2015 First in the World grant from the U.S. Department of Education. With that award, the Research Aligned Mentorship (RAM) program was created, which welcomes 250 students each fall. It aims to increase four-year graduation rates and see that all RAM students graduate with a distinctive record of accomplishment. The culminating aspect of the program is the placement of students in mentored research experiences on campus and off campus after sophomore year. Students receive one-on-one academic counseling, first-year and second-year experience courses, and invitations to special events and workshops. The program is evaluated through quantitative and qualitative assessment of treatment and control groups, which are compared on various academic outcomes and psychological variables.

### C-2 10:15 am–10:30 am

**Dena Garner, The Citadel**

**An Undergraduate Research Requirement in Exercise Science: The Challenges at a Military Institution**

Teaching undergraduates at a military institution has unique but also similar challenges for teaching any undergraduate student today (such as time constraints). Thus, to address the challenges faced by students in completing research, one department requires that all exercise science students complete one 3-hour course on research. Teams composed of three to four students complete a research topic. During the course of the semester, they are taught concepts that relate to the topic, culminating in a poster or oral presentation during the annual research conference. Before this hands-on approach to research was introduced, this class was not highly valued by students. However, the current format of the course has resulted in improved learning outcomes and student perception of the class.
### C-3 10:30 am–10:45 am

**Christine F. Hohmann | Avis Jackson, Morgan State University**

**The ASCEND Summer Research Institute at Morgan State University: An Entrepreneurial Approach to Research Training in Health**

This presentation will focus on a novel, course-based, entrepreneurial research training approach developed at Morgan State University and funded by a NIH BUILD Diversity Consortium grant. The framework will be described that led to the development of a training approach focused on lower division undergraduates, who are recruited from STEM and social/behavioral sciences disciplines. The presenters will provide an overview of the interdisciplinary learning objectives and course modules developed over the past two years, describe the evaluation strategies that have been applied to assess training outcomes and present the current data. This approach may have general application as an effective catalyst to engage lower division undergraduates in research and foster their retention in the major.

### C-4 10:45 am–11:00 am

**Nicholas Mauro, North Central College**

**Using Octave in Computational Mechanics as Preparation for Research Projects in Undergraduate Physics**

Computation is playing an ever-increasing role in physics and engineering curricula, mirroring the general integration of numerical techniques in nearly all disciplines in the physical sciences. One of our efforts has been to maximize the effectiveness of computation in (1) enhancing learning in intermediate courses in physics and engineering, (2) introducing students to languages that are widely used in academia as well as industry, and (3) preparing students for research endeavors inside and outside the department while (4) remaining cost effective for colleges and universities with limited resources. In this session, efforts to incorporate Octave into Intermediate Mechanics will be discussed, focusing on the success of this approach in preparing students for research, lessons learned, and necessary revisions to the approach.

### C-5 11:00 am–11:15 am

**Amy M. Buddie, Kennesaw State University**

**Undergraduate Research Clubs: Research Opportunities for All**

Most colleges and universities have registered student organizations led by undergraduate officers and a faculty adviser. There is little research on student organizations focused on undergraduate research, but such clubs provide several possible benefits. In this session, the evolution of the university’s Undergraduate Research Club will be described, which started with informational sessions and has grown to include co-sponsoring undergraduate research events with the Office of Undergraduate Research as well as conducting original research projects in teams. Challenges associated with the club and strategies developed to deal with those challenges also will be described. Finally, attendees will be provided with resources to help them begin multidisciplinary undergraduate research clubs on their own campuses.

### 11:15 am–11:45 am Discussion

**Diversity and Internationalization—Rees Room**

**Michael Reiter, Bethune-Cookman University, session chair**

### D-1 10:00 am–10:15 am

**Debra P. Salsi, Bowie State University**

**Incorporating Ethnographic Requirements to Introduce Qualitative Research**

Storytelling and ontological exercises in business offer a relevant and tangible place for research. To introduce and support critical thinking, reflection and controversy must be incorporated into real-world exercises. By incorporating symbolic and ethnographic methods into the requirements of classroom activities, students begin to experience the relevance of multiple perspectives. When students share these intangible observations through a thematic analysis, they have taken the first step in documenting observation. Providing this stepping stone to stimulate curiosity, the next step of analyzing can be introduced with student buy-in.
### D-2 10:15 am–10:30 am
Luciana Aenasoaie | Jenna Steiner, University of Michigan—Ann Arbor

**>(Co)Laboring: Expanding Research Programming through External Partnerships (an Interactive Workshop)**

The Undergraduate Research Opportunity Program (UROP) at the University of Michigan (U-M) has been recognized as a model for undergraduate research programming and innovation, particularly by fostering meaningful research partnerships between students and faculty. In this session, two examples of collaboration outside the traditional student-faculty research partnership will be featured: a well-established partnership with community organizations (the Detroit community-based research program) and a newly emergent partnership (with RELATE, a communications training program based at U-M). The opportunities and challenges of meshing different programmatic structures for the creation of equitable partnerships will be explored. Audience members will be able to return to their institutions with clear goals and resources to complete the work necessary for creating sustainable partnerships.

### D-3 10:30 am–10:45 am
Darpan Patel, UT HSC at San Antonio

**Engaging Underrepresented Minorities in a Mentor-Based Research Program in Undergraduate Nursing**

The Summer Undergraduate Nursing Research Immersion Experience (SUNRISE) program was developed to provide opportunities for eligible underrepresented/underserved undergraduate nursing students to participate in a two-summer mentored research experience. Enrollment in the SUNRISE program consists of a competitive application and interviews of first-year undergraduate nursing students enrolled full time in the traditional track of the bachelor’s of nursing science program. Each student is expected to complete the following activities: (1) pre/post surveys and entry/exit interviews, (2) integration into a mentor’s research program, (3) journal entries, (4) journal club meetings, and (5) dissemination activities. Through its first year, SUNRISE has made significant impact in students’ self-efficacy as scientists and perception of their role in research, boosting potential for success in nursing school and beyond.

### D-4 10:45 am–11:00 am
Suzanne E. Rocheleau | Jaya Mohan, Drexel University

**Undergraduate Research as a Recruitment and Retention Tool for Underserved Populations**

At Drexel University, the STAR Scholars program provides first-year students with a 10-week, faculty-mentored summer research, scholarly, or creative experience resulting in a 96-percent retention to graduation rate and a 79-percent graduate school attendance rate. Traditionally, STAR has been restricted to students with high GPAs—generally a minimum of 3.6. What would be the impact of extending STAR to students who have GPAs between 2.5 and 3.1? Also, as the percentage of women STARS in engineering was only 25 percent, the question was asked: How could the number of female STAR Scholars in engineering be increased? In 2016, two initiatives were implemented that show promise: Rising STARS and the Velay Fellows programs. The presenters will discuss how funding was secured for these initiatives, how programming was created to support these populations, and what implications are on the horizon for the future.

### D-5 11:00 am–11:15 am
Jessica E. Salvador, University of Washington

**First Generation in College: Chicanx/Latinx Undergraduates’ Experiences Accessing and Engaging in Research**

This session will share insights from a qualitative study of four first-generation Chicanx/Latinx undergraduate students and their access and engagement experiences in undergraduate research. Undergraduate research has been identified as a high-impact practice that extends undergraduate students’ learning, helps them define their academic goals, and increases their awareness and knowledge about graduate and professional schools. These opportunities have been found to be especially important for first-generation and underrepresented student populations in higher education. Yet, there is limited understanding of how first-generation Chicanx/Latinx students become aware of and engage in research. This session will highlight aspects that affected students’ access and engagement in research, including the university community influence, their research awareness and engagement experience vis-à-vis developing identification as a researcher, and their perceptions of research.

**11:15 am–11:45 am Discussion**
### Assessment and Nuts and Bolts—Fremont Room

**Patty Hamilton-Rodgers, State University of New York–Geneseo, session chair**

### Undergraduate Research Administration and Budgeting—Nuts and Bolts

**E-1 10:00 am–10:15 am**

*Cora Allard-Keese | Barbara J. Speziale, Clemson University*

**Assessing Undergraduate Research Project Productivity Longitudinally and across Disciplines**

Clemson University’s undergraduate research program, Creative Inquiry (CI), is an innovative, unique model of team-based research that spans all disciplines. Since 2005, CI has produced more than 1,200 research projects, 308 professional publications, 631 conference presentations, and 21 books, garnering more than 38 awards. More than 4,000 undergraduate students enroll in CI projects each year. Assessment of large undergraduate research programs that span all disciplines is complex. However, assessment of sponsored projects is essential. Each year, faculty mentors submit reports that include descriptions of products (such as peer-reviewed publications, presentations, and art productions). Historically, this data was summarized in overall program accomplishment reports. An analytical approach to analyzing project productivity longitudinally and across disciplines will be presented.

10:15 am-10:30 am Discussion

### Assessment Strategies

**E-2 10:30 am–10:45 am**

*Linda Blockus | Jennifer E. Sanders Brown, University of Missouri–Columbia*

**Navigating Successful Partnerships with Residential Life and Conference Housing during a Summer Program**

Minding the perceived and often procedural gap that exists between entities within Student Affairs and Academic Affairs on a university campus is important to the success of students living on campus, even on a short-term basis. The programmatic logistics of campus housing can be challenging for those unfamiliar with the organization, structures, timelines, processes, and priorities within the department or unit. This presentation will highlight a few questions to ask that will assist in establishing a positive foundation for a successful partnership with an on-campus, summer housing unit.

**E-3 10:45 am–11:00 am**

*Bethany M. Usher | Stephanie Foster, George Mason University*

**Five Years of Students as Scholars: Creating and Sustaining an Undergraduate Research Initiative**

Through substantial faculty involvement and institutional support, George Mason University has built a robust program that is growing in size, complexity, and approach. Students as Scholars was designed to foster a culture of student scholarship (undergraduate research and creative activities) at the university. The initiative includes faculty support (course, curriculum, and project grants; faculty development workshops; stipends), student programs (research assistantships, the Undergraduate Research Scholars Program, travel grants), and a Mason-wide Celebration of Student Scholarship. More than 24,000 students and 500 faculty have participated in the past six years. Challenges have included changing leadership, competing university initiatives, and faculty turnover. This presentation will describe the elements of the initiative, share tools, discuss how to sustain undergraduate research programs, and embrace challenges.
Quantifying Participation of Undergraduates in Research and Creative Activities

Quantifying undergraduate participation in scholarly activities is challenging. Even at institutions where research is incorporated into the curriculum to allow for better tracking, the quantification of student engagement can still be incomplete. An effort to determine the number of students engaged in research at East Tennessee State University (ETSU) for a given year will be described. A model was developed to estimate the fraction of students in a graduating class who had, at some point as an undergraduate, been involved in a scholarly activity. Interestingly, the output of the model was found to be consistent with student self-reporting via the National Survey of Student Engagement (NSSE). At ETSU, within a graduating class, perhaps 1 in 4 students are likely to have had a scholarly experience.

11:15 am–11:30 am Discussion

LUNCH: 11:45 am–1:15 pm; Humphries Ballroom
**Undergraduate Research Administration and Budgeting—Nuts and Bolts—1899 Ballroom**

*Lissa Schneider-Rebozo, University of Wisconsin–River Falls, session chair*

**A-6 1:15 pm–1:30 pm**

*Linda Blockus, University of Missouri–Columbia*

**Small-Group Seminars for Large Summer Programs**

The University of Missouri's summer program serves as an umbrella for about a dozen different programs, including various NSF-REU sites and departmental programs. In addition to evening seminars for all 100 students twice a week, weekly group seminars/workshops are offered so that students may have a small-group experience. Students select a seminar based on their interests. Options include professional development topics for underclassmen and seniors, targeted skills, and scientific topics. Seminars are led by volunteer faculty and postdoctoral students. Topics have included journal clubs, scientific communication, evolution and society, 3D printing, and NSF GRF proposal development. Groups serve to bring together students across different disciplinary programs and are a popular part of the summer experience.

**A-7 1:30 pm–1:45 pm**

*Kadie J. Hayward Mullins | Wesley F. Lewis, Embry-Riddle Aeronautical University*

**Life after Accreditation: Fostering Growth in the Final Accreditation Stages**

For the past five years, Embry-Riddle Aeronautical University–Daytona Beach’s Office of Undergraduate Research has benefited from the support, visibility, and engagement of key university stakeholders due largely to its participation in a Quality Enhancement Plan for university accreditation. Driving broader participation in student-led, university-funded research, faculty-supported curricular assessment, and the publication of the undergraduate research journal Beyond, accreditation has provided a strong foundation for OUR. The ending of the QEP provides an opportunity for reflection and planning for continual growth. This session will explore the non-accreditation-based assessment and strategic planning used by the team to create the next phase of undergraduate research.

**A-8 1:45 pm–2:00 pm**

*Patty Hamilton-Rodgers, State University of New York–Geneseo*

**Have a GREAT Day: Celebrating Undergraduate Research**

Over the past 10 years, SUNY–Geneseo’s GREAT Day (Geneseo Recognizing Excellence, Achievement and Talent)—the university’s symposium/scholars day—has grown from 8 percent to nearly 20 percent in student participation. The day showcases undergraduate research and creativity while cultivating a climate that aims to increase undergraduate research and creative endeavors and thus have a larger impact on campus. The day engages every academic department as well as College Advancement, Student Government, the Honors Program, and many student organizations. Since the inception of GREAT Day, funding for undergraduate research has nearly tripled, and the number of students receiving funding has more than doubled. The presentation will cover the process of starting a symposium day, including key components and logistics, building relationships, and funding.
A-9 2:00 pm–2:15 pm

Laura Zink, University of Saskatchewan

**Administration Tool Kit: Faculty Engagement, Collaboration, and Resource Management**

Undergraduate research administration involves building partnerships with faculty, students, and colleagues across institutional units. Through managing financial and human resources, generating attention and enthusiasm for a shared goal, and crafting organizational architecture and program evaluation to weather growth and change, the University of Saskatchewan has superseded its initial targets. Situated in the Canadian prairies, its research-intensive institute focuses on imputing research projects into large, first-year classes; cultivating research culture from freshmen to professors; and evolving innovation to benefit students and professors. Although challenges exist, three features have been key: collaborating with early-adopter faculty who lead subsequent conversations with colleagues, showcasing initial results to garner interest, and collaborating with resources across units to deliver a 50-percent increase in the number of undergraduates experiencing research since 2014.

2:15 pm–2:30 pm Discussion

Undergraduate Research Collaborations—Agassiz Room

Amy M. Buddie, Kennesaw State University, session chair

B-6 1:15 pm–1:30 pm

Allison Brungard, Slippery Rock University

**Untapping Expert Services: Library-Led Initiatives for UREs**

Undergraduate research experiences (UREs) engage students in authentic and creative research. The library or information commons is often at the heart of such research production and collaboration on campus. This presentation will aim to identify multiple ways that library-led programs can support UREs by providing information literacy and scholarly communication-related services to URE participants. These services align with institutional goals as well as the Association of College and Research Libraries’ newly adopted Framework for Information Literacy for Higher Education (ACRL 2016), in which Scholarship as Conversation is an outcome of a URE. Through collaboration with research faculty, poster workshops, and consultations, faculty librarians can provide expert services that will impact student learning and engagement.

B-7 1:30 pm–1:45 pm

Joe Lucchesi, St. Mary’s College of Maryland

**Object Lessons: Undergraduate Research Collaborations in Art History**

This presentation will explore how faculty can use artworks and archival materials to promote evidence-based research and to facilitate undergraduate student research collaborations in art history and related fields. Drawing on experiences with the pilot course Collections-Based Research and Collaborative Project Development, the presenter will describe the formation of a student research team for a new scholarly project; outline the course structure; discuss the students’ work with objects from the St. Mary’s College of Maryland art collection and documents from the Smithsonian’s Archives of American Art; and consider how artworks can function as primary documents, evidence, and vehicles for developing a research plan, working collaboratively, and enhancing analytical and interpretive skills. Finally, perspectives will be offered on successes and challenges of moving projects forward from this research and pedagogical foundation.
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<tr>
<th>Time</th>
<th>Session/Presenter/Institution</th>
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<tr>
<td>B-8 1:45 pm–2:00 pm</td>
<td>Emily Wiley, Claremont McKenna College</td>
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<tr>
<td><strong>Building Student-Centered Research Consortiums That Advance Faculty Scholarship: A Transferrable Model</strong></td>
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<td>The Ciliate Genomics Consortium, a collaborative research community of undergraduates and faculty, engages CUREs to advance scholarship goals and broader needs of the community. Faculty select genomics projects useful to their own research programs, and students in their courses engage these through modules adapted for typical laboratory periods. Projects facilitate open-ended research into gene function. Students share their discoveries to the broader community by linking manuscripts to the model organism database, thereby advancing community gene annotation needs. This model has created a vibrant learning community of faculty and students across 25 institutions; hundreds of students have contributed new information about the functions of ciliate genes. Consortium workshops have seeded new collaborations between faculty and undergraduates at different institutions and promoted participant “cross-training” in consortium labs.</td>
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<tr>
<td>B-9 2:00 pm–2:15 pm</td>
<td>Allison Beauregard-Schwartz, University of West Florida</td>
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<td><strong>Launching OUR Works! Leveraging Work Study to Increase Engagement in Undergraduate Research across Campus</strong></td>
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<td>In an effort to expand the number of research students at the University of West Florida (UWF), the Office of Undergraduate Research (OUR) recently launched the OUR Works! program to provide research experiences for students eligible for Federal Work Study. The OUR Works! program was launched in fall 2016 with 40 students. Nearly half of the inaugural cohort had no previous research experience, and 87 percent had no previous experience or only research experience as part of a course. Sixteen departments are represented, including seven that had little or no previous history of participation in the OUR programs. The OUR Works! program could be used as a model for other institutions. This presentation will discuss program details, including funding, structure, student recruitment, and faculty recruitment.</td>
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<td>2:15 pm–2:30 pm Discussion</td>
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<td>High-Impact Learning Practices—Doyle Room</td>
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<td>Dena Garner, The Citadel, session chair</td>
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<td>C-6 1:15 pm–1:30 pm</td>
<td>George C. Shields, Furman University</td>
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<td><strong>Using Early Introduction to Research to Increase STEM Majors at Primarily Undergraduate Institutions</strong></td>
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<td>This presentation will discuss a very successful intervention that has increased the number of majors in STEM (Science, Technology, Engineering, and Mathematics) in general, and chemistry majors in particular, at three primarily undergraduate institutions. The model of intervention and early introduction to research was pioneered at Hamilton College thanks to several grants from the Camille &amp; Henry Dreyfus Foundation and a $100,000 grant from the National Science Foundation’s Science Talent Expansion Program (NSF-STEP). This model was adapted first at Armstrong State University with a $1 million NSF-STEP grant and later at Bucknell University with a $450,000 NSF-STEP grant. The intervention, early introduction to research, and supplemental programming for incoming first-year students increased retention and graduation rates at all three institutions. One of the most startling contrasts between students entering Hamilton and Bucknell from those entering Armstrong is the degree of preparation that students have received in high school, and yet the student outcomes were particularly spectacular at Armstrong State University.</td>
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Engaging Undergraduates in Original Research in Their First College Course

A course will be described in which first-year students engage in original research during their first months at college. The students work on an original research project that is part of an ongoing interdisciplinary research program to investigate bacterial competence using microbiological methods and atomic force microscopy. During this course, the students participate in every part of the research process—from defining the research question and background research, through collecting and analyzing data, to using their own original data to write a scientific journal article. This presentation will cover the “nuts and bolts” of the course structure, describe the role of the research project topic in this course, and discuss the many positive outcomes for students and instructors.

High-Impact Strategies for Undergraduate Research in Education

The CUR Education Division administered a survey in spring 2017 that focused on the faculty’s practice of retooling existing courses, teaching applied research in courses, and embedding research projects within courses. Additionally, open-ended questions asked about the effectiveness of these practices for teacher preparation, educational foundational knowledge, and retention and progression of candidates. Results will be discussed in this presentation.

Scaffolding Scholarly Experiences throughout the Undergraduate Curriculum

The Quality Enhancement Plan (QEP) at Florida Gulf Coast University (FGCU) focuses on improving student critical thinking, information literacy, and written communication. Rather than developing these skills through traditional methods (such as general education or writing classes), these learning outcomes are practiced and enhanced through scholarly experiences. Traditional undergraduate scholarship manifests itself through faculty-mentored research. These, because of the economy of scale, typically reach a minority of students. At FGCU, however, scholarship is integrated throughout the curriculum and scaffolded to build greater depth and sophistication. Programs choose a minimum of three “scholarly” courses, which are customized with a sequenced arrangement of activities that introduce increasingly complex scholarly elements. A number of examples will be presented from a variety of programs across the university.

Leveraging International Partnerships to Develop Programs in International Research

This presentation will highlight two program models for facilitating international research at the undergraduate level: the EuroScholars Undergraduate Research Program and the International Studies Abroad Internship program. It also will discuss how the University of Tennessee has leveraged international research to expand research opportunities for undergraduates, providing tools that can be used to develop other programs that offer international research opportunities for undergraduates.
## Supporting Undergraduate Research: Strategies Employed at Northeastern State University

Northeastern State University (NSU) is a regional, primarily undergraduate institution in Oklahoma. NSU operates three campuses in close proximity (separated by roughly 50 miles) with approximately 10,000 students. One special feature of the programs in the natural sciences at NSU is the fact that nearly 100 percent of graduates have completed a one-year research experience. To support the focus on undergraduate research experiences, a program was implemented that includes three components: reassigned time banking, funds for research supplies, and funds for faculty and students to travel to regional or national meetings to present results. The framework of these supporting components and their impact on research at NSU will be presented.

## Assessing IUPUI’s Diversity Scholars Research Program: Lessons Learned

The Diversity Scholars Research Program (DSRP) is an undergraduate, performance-based scholarship program that aims at attracting historically underrepresented minority (URM) students in all disciplines. The program accepts incoming freshmen and continuing/transfer students. Scholars participate in faculty-mentored, co-curricular research for up to four years while pursuing their degree. Since its launch in 2005, DSRP has enrolled 96 students. To date, 78 percent of DSRP scholars have graduated from IUPUI—a number significantly above the average graduation rate for URM students at the institution. In addition, 58 percent of DSRP graduates were accepted to graduate or professional schools. A recent program assessment revealed that DSRP freshmen have a lower rate of graduation than continuing/transfer students. Changes in admission and the first-year experience are planned. Lessons learned and future directions will be discussed.

## Involving Undergraduate Researchers in Exploring the Obstacles to Health-Care Access for (Im)migrant Farmworker Families

This presentation will report on the development of a new program at a public liberal arts college to provide mentored training for undergraduates in ethnographic field methods and to involve student collaborators in a team-based study of obstacles to health-care access for immigrant farmworker families. The discussion will focus on recruitment strategies to seek undergraduate researchers from underrepresented groups and the three-phase mentorship model implemented to support undergraduate team members in their close work with a vulnerable population. Student researchers will spend substantial time with immigrant farmworkers, learning about their life circumstances through interviews and observation. The aim is to enhance the transformational learning that students can gain from this intercultural experience through pre-field orientation, ongoing field support, and structured opportunities for reflection.

## Capturing the “Count”: Developing and Implementing a Student Research Database

How many undergraduates are participating in undergraduate research at an institution? The complexity surrounding the “count” is an issue encountered by colleges and universities when assessing the number of students engaged in this important, high-impact practice. This session will examine the development and implementation of an in-house database system to track undergraduate research on a multi-campus system across all disciplines. This system allows tracking and verification by a faculty mentor regardless of whether the role is paid, credit-bearing, or volunteer. The goal is to help participants learn how they can leverage institutional initiatives and partnerships to enhance the tracking and assessment of undergraduate research activity on their campuses.
**E-7 1:30 pm–1:45 pm**

*Karen M. Travis, Pacific Lutheran University*

**Strategies to Improve Student Analysis and Writing of Literature Reviews**

Since 2004, a sole-authored undergraduate research capstone for all economics majors has been taught. Student papers were reviewed over time to assess how modifications to requirements and instructions improved the quality of the final papers. Of particular interest was the students’ ability to synthesize the literature according to themes pertinent to their topic. Several quantifiable measures were created to assess their final papers, including the total number of peer-reviewed articles referenced within the literature review and the number of paragraphs that cited a minimum of two differing scholarly sources. In addition, a timeline was developed that documented the changes to the instructional materials and requirements. Preliminary descriptive statistics indicate that revisions yielded steady improvements in both of these measures.

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**E-8 1:45 pm–2:00 pm**

*Jessica Bell, University of San Diego*

**Malate Dehydrogenase CUREs Community: A Protein-Centric Approach**

The Malate Dehydrogenase CUREs Community is a cohort of 15 faculty from 12 institutions (3 RIUs, 2 CCs, 7 PUIs). The community’s goals are to investigate critical questions on undergraduate pedagogy (CUREs) across a diverse set of educational institutions and to develop a research community that is supported, sustainable, protein-centric, and student-centered, aiming to reduce the barriers to implementing pedagogical innovations. Two unresolved, important aspects will be discussed: the length of CUREs and the impact of scientific collaborations necessary to gain maximal, positive student outcomes. To address barriers that influence faculty decisions to adopt and maintain pedagogical innovations, the MCC will provide open access, have extensive resource support, share knowledge for instructors, and provide research collaborations, providing a model for developing future CURE communities.

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**E-9 2:00 pm–2:15 pm**

*Patrick J. Killion, University of Maryland–College Park*

**University-Wide Undergraduate Research Immersion for First-Year Students**

In 2014–2015, the University of Maryland (UMD) initiated a new program for first-year freshmen from a wide range of academic backgrounds that would provide authentic, faculty-led research experiences; mentorship; and accelerated opportunity. The UMD First-Year Innovation & Research Experience (FIRE) provides first-year students with authentic research experience, broad mentorship, and institutional connections that affect academic success, personal resilience, and professional development. The FIRE mission includes focused attention on undeclared, non-honors, and transfer student populations to increase academic success; expose students to academic units that they might not have considered; and accelerate student professional development. Annually, FIRE offers a broad demographic range of nearly 500 students’ involvement in the institutional missions of innovation and research, a supportive peer community, and a more academically immersive first-year experience.

2:15 pm–2:30 pm Discussion

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BREAK and NETWORKING: 2:30 pm–2:45 pm – Humphries Ballroom
The Power and Promise of Early Research
Location: Doyle

Desmond H. Murray, Andrews University

This presentation will define early research and its relationship to human curiosity. It will describe historic barriers to early research, distinguishes it from other forms of active learning and highlights promising trends, opportunities, and resources. It will establish substantial and insightful connections between student participation in early research, inclusion, and student success. It will advocate for universal adoption of and support for early research as a foundational game-changer for STEM education. A key insight is the identification of age as an important, nontraditional demographic classification in STEM. It will propose that early authentic research provides the means par excellence for all students to obtain a concrete understanding and rational view of the world and make advances for the benefit of all society.

THEME: Diversity in Research

Walking in Your Footsteps: Following a 111 Million-Year-Old Hadrosaur Track Way
Location: Freemont

Jackson Aaron Ganter | Christopher John Stanley, University of Texas of the Permian Basin

This interactive session will cover the two-year process of gaining permission and access to the land through the State of Texas, the actual casting of the tracks, the two-semester undergraduate research project undertaken by presenters, and the long-term educational outreach STEAM awareness project for K–12 students. Participants will engage in the process of casting tracks, interpreting dinosaur traces, and estimating sizes using a modern analog (the human form).

THEME: Undergraduate Research Collaborations

Evolution of Best Practices in Program Administration and Budgeting: Creative Inquiry
Location: Agassiz

Barbara J. Speziale | Cora Allard-Keese, Clemson University

Efficient management of a campus-wide, multidisciplinary undergraduate research program requires precise management, monitoring, and data handling. Clemson University’s Creative Inquiry (CI) program annually supports 4,000 undergraduate students in research teams. Institutional support is significant—$1.6 million this year, plus private and corporate gifts. This session will examine the eight-year evolution of CI budgeting, management, and publicity systems—from spreadsheets to a custom-designed, interactive electronic platform. Features discussed will include access to university financial and registration databases, real-time reporting and data analysis, a grant proposal-style application process, and individual project accounts based in academic departments but allocated and monitored through the central CI office. Participants will explore CI databases, review communication platforms, and discuss CI practices in the context of their own programs.

THEME: Undergraduate Research Administration and Budgeting—Nuts and Bolts
Assessing Program and Student Learning Outcomes for a Campus-Wide Undergraduate Research Program

Location: 1899 Ballroom

Stephanie Foster | Bethany M. Usher, George Mason University

Undergraduate research has been identified as a high-impact educational practice to improve student success, learning, and retention. Now in its sixth year, George Mason University’s Students as Scholars initiative goes beyond the traditional selective summer research program to transform the curriculum for all students. Students as Scholars engages in extensive faculty and curricular development to create courses that address learning outcomes at three developmental levels: discovery, scholarly inquiry, and creation of scholarship. This session will offer a hands-on, in-depth look at the program assessment strategy and will explore the complexities of assessing curriculum innovation and student learning across disciplines on a large campus. The focus will be on the program rubric, recently revised to better measure program and learning outcomes.

Asynchronous Progression with Undergraduate Research from Introduction to Capstone

Location: Rees

Scott Burgess | Dennis A. Vincenzi, Embry-Riddle Aeronautical University

Asynchronous undergraduate research can be highly successful when employed with an integrative approach that must start early and continue to reach an assessable end state. The Embry-Riddle Aeronautical University Worldwide Campus has an award-winning approach to online education that introduces, develops, and assesses research advancement throughout a student’s academic progression. An online program with research should introduce, promote practice, and achieve mastery of program outcomes (PO). Included in the learning outcomes (LO) for every higher level (300 and 400 level) course is the requirement to expose the student to research methodologies and promote research opportunities through interactive assignments whenever possible. Outcome mapping and alignments help mature student research skills. Challenges exist that must be addressed to set the conditions for program success.
### Poster Session 2—Wednesday, June 28th, 4:15pm–6:15pm

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<th>Poster Session 2</th>
<th>Wednesday, June 28</th>
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#### [26] ECC Research Fellows Program: A Community College and Four-Year Institution Undergraduate Research Pathway Program

*Destiny McDonald, Northern Illinois University*

The ECC Research Fellows Program was developed as a result of an undergraduate research pathway program pilot involving Northern Illinois University (NIU) and Elgin Community College (ECC). The program is a collaboration between faculty and administration at NIU and ECC that engages first-year students at ECC in research through the Latino Oral History Project. Students receive a scholarship in their first and second years at ECC and are granted a scholarship to NIU upon completion of their associate's degree. This program provides a model for collaboration and has the potential to affect recruitment and retention efforts at both institutions.

**THEME:** Undergraduate Research Collaborations

#### [27] A One-Eyed Goose in a Hail Storm: A Model for Research at a Community College

*Ashley Hagler | Melissa Armstrong, Gaston College*

In 2009, Gaston College, a community college in North Carolina, embarked on a bold initiative to increase student engagement and change the culture of learning by redesigning the associate of science program. This initiative, known as SPARC3, embeds inquiry-based instruction and authentic undergraduate research in core STEM courses. The national, Bellwether award-winning, SPARC3 model has spread beyond STEM, and organized research is now being conducted college-wide. All of this has been done without an official office of undergraduate research or instructor incentives. This session will provide an overview of the model, keys to its success, lessons learned, and viewpoints from instructors and administrators.

**THEME:** Assessment

#### [28] Engaging Underrepresented Student Populations in Research: Initial Assessment of an Undergraduate Research Certificate Program

*Frances Chi-Hui Shen, University of Illinois at Springfield*

As part of a freshmen seminar course, students in a living-learning community that serves an underrepresented student population participate in a number of workshops designed to impart foundational research knowledge and skills. This presentation outlines the development and initial assessment of an undergraduate research certificate program designed to engage underrepresented minority students in undergraduate research. To receive the undergraduate research certificate, students complete an additional set of workshops outside of their course. Students are then matched with faculty mentors to engage in independent research activities. Preliminary results on increased research self-efficacy using pretest and posttest assessments will be presented. Future plans to assess long-term student outcomes and to expand the program campus-wide will also be discussed.

**THEME:** Diversity
[29] Assessment of Small Spacecraft, Multidisciplinary Undergraduate Research
Jeremy Straub, North Dakota State University
North Dakota State University staff will present an overview of a longitudinal study spanning over five years assessing the impact of undergraduate research on student participants and present the assessment instruments that have been used (including the Undergraduate Research Student Self-Assessment-URSSA, other non–project-specific survey questions, and topic-specific surveys). Staff will also will discuss the value of assessment for program formation as well as formative and summative assessment. A case study of the multi-institutional small satellite program will be presented, and the specific value of assessment will be discussed. The use of other institutions’ assessment data (as well as pilot and low-cost startup strategies) for seeking administration buy-in will be discussed. Data from a small satellite program at a single university and a nationwide survey will also be presented.

Ruth J. Palmer, The College of New Jersey
The College of New Jersey staff will report on a qualitative meta-synthesis of the narrative inquiry projects of a sophomore-level course-integrated practicum, in which prospective secondary teachers served as peer mentors to students with intellectual and developmental disabilities (IDDs). The meta-synthesis aimed to identify the indicators of change in mentor’s professional orientation. Syntheses of some 60 documents uncovered several themes and suggest the following areas of identity shifts: (1) a revised orientation to disabilities and inclusive education, (2) upward/downward social-comparison, (3) augmented perceptions of diversity beyond gender and race, and (4) increasing professional self-awareness and pedagogical capacity. This report, along with bibliographic sources, will serve to initiate discussion with attendees about the benefits/pitfalls of a course-integrated research-based practicum, inclusive education, mentored undergraduate research, and identity development.

[31] Engaging Undergraduates in Research through Collaborations with Local Craft Breweries
Rebecca A. Hunter, The Citadel
Many students do not participate in potentially transformative undergraduate research experiences due to lack of interest. In an effort to further engage undergraduates in a relevant interdisciplinary research experience, a collaboration was formed with several local craft breweries to develop a variety of projects that would be mutually beneficial for students and small businesses. These projects have been implemented as both course-based research experiences in chemistry as well as senior capstone projects. The projects provide breweries with important data, with students fully engaged in the process; they often choose to assist with brewing, designing experiments, and running experiments. Student interest in this research has grown across campus in the two years since the inception of this collaborative project.

[32] Assessing the Dynamics of Learning in Novice Researchers
Catherine Chan | Prajukti Bhattacharyya, University of Wisconsin–Whitewater
Engaging students early in mentored undergraduate research, especially for students underrepresented in academia, have well-documented benefits. However, few studies have examined the progress of development of students’ understanding of their project’s concepts student gains in research-related skills, and gains in student confidence and self-efficacy as researchers. The Research Apprenticeship Program (RAP) at UW–Whitewater engages beginning students in mentored undergraduate research irrespective of disciplines, academic preparation, or previous research experience. An evaluation will be presented of how novice researchers progressively acquire the scholarly habits of mind, develop their identities as researchers, and master research skills as they participate in a variety of mentored research projects over one academic year. The implications of the results regarding student success will be discussed.
[33] Pairing Mentored Research with Statistics and Journal Club Didactics to Maximize Learning Outcomes for Undergraduates

Laura Rabin, City University of New York–Brooklyn College

The central component of the Research Experiences for Undergraduates (REU) Program at Brooklyn College is a semester-long laboratory immersion, under the close supervision of faculty mentors, which results in a completed, first-authored research poster. In conjunction with lab work, students attend weekly REU-specific didactics, including a journal club that teaches students how to select, read, critically analyze, and summarize original research papers and a statistics seminar focused on analyzing data, statistical reasoning, and presenting results in academic contexts. The benefits of pairing mentored lab work with coursework will be described such as fostering the development of a strong scientific identity and sense of belonging to the scientific community, increasing students’ ability to read and critically evaluate research literature, and increasing students’ facility in communicating about their work.

THEME: Undergraduate Research Collaborations

[34] Capturing the “Count”: Developing and Implementing a Student Research Database

Asheley Schryer | Tricia Kennedy, University of South Carolina–Columbia

How many undergraduates are participating in undergraduate research at an institution? The complexity surrounding the “count” is an issue encountered by colleges and universities when assessing the number of students engaged in this important, high-impact practice. This session will examine the development and implementation of an in-house database system to track undergraduate research on a multi-campus system across all disciplines. This system allows tracking and verification by a faculty mentor regardless of whether the role is paid, credit-bearing, or volunteer. The goal is to help participants learn how they can leverage institutional initiatives and partnerships to enhance the tracking and assessment of undergraduate research activity on their campuses.

THEME: Assessment

[35] A Model for Success in Increasing Diversity in Disciplines through the Honors in the Major Undergraduate Research Program

Vanessa McRae | Zholey Martinez, University of Central Florida–The Burnett Honors College

The Honors in the Major program is the oldest and most prestigious undergraduate research program at the University of Central Florida (UCF). The program provides eligible undergraduate students from all disciplines across the UCF campus an opportunity to engage in independent and original research as principal investigators. On average, 300 students actively engage in undergraduate research through the Honors in the Major program throughout the academic year. Upon successful completion of the program, students earn honors distinction on their diplomas and transcripts. The presenters will provide a guide for recruiting university honors and non-university honors students into the Honors in the Major program. They will also share a model of the recruitment, enrollment, and completion process for the Honors in the Major program.

THEME: Diversity in Research

[36] Understanding Barriers and Enablers of Students Who Have Never Participated in Mentored Undergraduate Research

Melissa Cater | Kwadernica Rhea | Sarah D. Ferstel | Carol E. O’Neil, Louisiana State University

Seeking to increase and support undergraduate research, the presenters developed an undergraduate research program, Quality Enhancement Plan. Focus-group discussions (FGDs) were held in 2016 with undergraduate students who had never participated in mentored undergraduate research (MUR). The purpose was to understand students’ perceived barriers and enabling factors to participate in MUR. Eight FGDs were held with 42 participants. Responses revealed a lack of understanding of what MUR involved and how to become engaged in it, a view of MUR as an opportunity for science majors rather than an opportunity for all students, the time required to devote to MUR, and questions about the availability of faculty to guide the research. Strategies for increasing MUR participation by nonresearchers, suggested by students in the FGDs, will be highlighted.

THEME: Assessment
### [37] Administration Tool Kit: Faculty Engagement, Collaboration, and Resource Management

**Laura Zink, University of Saskatchewan**

Undergraduate research administration involves building partnerships with faculty, students, and colleagues across institutional units. Through managing financial and human resources, generating attention and enthusiasm for a shared goal, and crafting organizational architecture and program evaluation to weather growth and change, the University of Saskatchewan has superseded its initial targets. Situated in the Canadian prairies, the research-intensive institute focuses on imputing research projects into large, first-year classes, cultivating research culture from freshmen to professors, and evolving innovation to benefit students and professors. Although it has posed some challenges, three features have been key: collaborating with early-adopter faculty who lead subsequent conversations with colleagues, showcasing initial results to garner interest, and collaborating with resources across units to deliver a 50-percent increase in the number of undergraduate researchers since 2014.

**THEME: Undergraduate Research Administration and Budgeting—Nuts and Bolts**

### [38] Undergraduate Research Experiences and Student Retention: The Role of a Multidisciplinary Fellowship at Arizona State University’s New College of Interdisciplinary Arts and Sciences

**Todd R. Sandrin, Arizona State University West**

Participation in formalized undergraduate research experiences seems to enhance academic performance and retention. Although the structure of undergraduate research programs vary from school to school, most research on undergraduate research experiences focuses on programs that serve the most academically achieving students in one academic discipline. One program, New College Undergraduate Inquiry & Research Experiences (NCUIRE), accepts applicants from any discipline in the entire college. Moreover, there is no GPA criteria to receive NCUIRE fellowships, and both lower- and upper-division students can participate. This poster will address the effect of this inclusive approach on retention matters, comparing the NCUIRE participants to the broader student population as well as the retention outcomes for the four programs within NCUIRE.

**THEME: High-Impact Learning Strategies**

### [39] Undergraduate Research Leaders: Developing an Outreach and Student Development Model That Promotes Undergraduate Research

**Jennifer Harris | Jessica E. Salvador, University of Washington**

On a highly decentralized research university campus, engaging in effective outreach to students can make a critical difference for those who may not envision themselves as researchers but who would potentially have much to gain from these transformative, high-impact learning experiences. Since 2010, the University of Washington’s Undergraduate Research Program has developed the Undergraduate Research Leader (URL) Program—an outreach and student development model that trains a cadre of experienced undergraduate researchers to share both their passion for research and program resources. This poster will share the program’s history, goals and structure, challenges, lessons learned, and next steps. The URL Program can provide a viable model that other administrators may find useful to adopt and adapt to their campus needs.

**THEME: Undergraduate Research Collaborations**
[40] Digital Badging in Undergraduate Research
Jaya Mohan | Emily Kashka | Suzanne E. Rocheleau, Drexel University

In 2014–2015, Drexel University’s Office of Undergraduate Research established the SuperNova Undergraduate Research Fellows Program as a way to document and recognize students’ achievements in undergraduate research throughout their academic careers. Students can earn “points” for research-related activities toward two levels of distinction by graduation—Research Fellow and SuperNova. A digital badging system was initiated to track student progress through the program. This poster will discuss the rationale behind the choice of this format for credentialing, the merits and challenges of this system, and suggestions for implementing digital badging to track undergraduate research.

**THEME: Undergraduate Research Administration and Budgeting—Nuts and Bolts**

[41] EURECA! Social Media Marketing Strategies to Encourage Undergraduate Research Engagement
Apryl A. Webb, Midwestern State University

Administration of office-centered programs in undergraduate research (UR) requires unique marketing strategies, particularly in the realm of electronic and social media. This project involves analyzing social media engagement behaviors of undergraduate students to develop a marketing strategy that increases quantity of proposals submitted for UR office programs. In particular, Facebook, Twitter, and university webpage analytics were measured to determine greatest student engagement along with preferences in content. Data show students engage most with peer-research profiles and interactive content. After implementing marketing strategies, EURECA saw a 35-percent increase in proposal submissions in one year. Future developments include redesigning UR webpages to drive traffic to UR information, boost extended engagement, improve word-of-mouth marketing, and enhance understanding of UR programs and related participation requirements.

**THEME: Undergraduate Research Administration and Budgeting—Nuts and Bolts**

[42] Forming Ecologists: How Does Summer Research Experience Influence Interest for Academic Career?
Aude Lochet, Cary Institute of Ecosystem Studies

There is a growing body of literature reporting the positive outcomes of undergraduate research experiences, including persistence in science. Several factors can influence students’ retention in science, but the relative importance of these factors might vary depending on the discipline. In this study, relationships are explored among self-efficacy, science identity, and students’ willingness and varied motivations to pursue research in the ecology profession. Data is drawn from pre- and post-program student surveys from the Research Experiences for Undergraduates that has been operating at the Cary Institute of Ecosystem Studies in Millbrook, NY, for 29 years. Results of this study will shed light on strategies to foster interest in ecology among undergraduate students.

**THEME: Assessment**

[43] Where in the World Is OSCAR? George Mason University’s Undergraduate Student Travel Fund
Karen T. Lee, George Mason University

The Undergraduate Student Travel Fund (USTF), administered by the Office of Student Scholarship, Creative Activities, and Research (OSCAR) at George Mason University, provides competitive funding for students to present their scholarly, research, or creative projects at conferences or festivals. To access funds, students submit an online application prior to travel, as well as a short description of their experience and a photograph after they travel. Since 2011, the USTF has supported presentations and performances of more than 300 students distributed across more than 30 majors. This successful program could serve as a model for institutions interested in developing a program that would make off-campus presentations more accessible to students. This presentation will address details of the application process, types of travel supported, and lessons learned.

**THEME: Undergraduate Research Administration and Budgeting—Nuts and Bolts**

Linda Blockus, University of Missouri–Columbia

The University of Missouri has begun a new one-week celebration of undergraduate visual art and design that brings together students and faculty in architecture, art, digital storytelling, documentary film, floral design, photojournalism, strategic communication, textile and apparel management, and theater. The poster will include a planning calendar, schedule of events and logistics, a detailed budget, and plenty of photos. Handouts and PR material will also be available. The showcase week includes an external jury, student prizes (cash and exhibition awards), panel discussions, a keynote speaker, and a student exhibition in the university’s main administration building. The events are promoted widely on campus and with the local arts and film community.

THEME: Undergraduate Research Administration and Budgeting—Nuts and Bolts

[45] Leveraging Different Sources of Funding for Undergraduate Programs at a Hispanic-Serving Institution

Lourdes E. Echegoyen, University of Texas at El Paso

The Campus Office of Undergraduate Research Initiatives (COURI) at the University of Texas at El Paso (UTEP) runs a variety of programs during the academic year and summer sessions through a combination of institutional support, federal grants, and private gifts. This poster will discuss how COURI uses the different monetary sources to support undergraduate research and creative endeavors at a Hispanic-serving institution. Support from these sources has allowed COURI to run professional development workshops, sponsor symposium awards, hire students as undergraduate researchers, grant scholarships, and provide some material support to faculty mentors. Providing salaries, scholarships, and competitive travel grants has been especially important for the population of nontraditional students who are financially disadvantaged and must work to support their families while carrying full course loads.

THEME: Undergraduate Research Administration and Budgeting—Nuts and Bolts


Timothy Holt | Anne A. Boettcher, Embry-Riddle Aeronautical University

Capstone project requirements at a primarily undergraduate STEM-focused university increased frustration levels for both students and faculty alike, with students experiencing substantial apprehension as their lack of understanding of research methods became apparent. The model for capstone success is to begin application early within each student’s program, building on the foundation material necessary to complete a research capstone with essential outcomes. At Embry-Riddle Aeronautical University, each college assessed the connection of research skill development to successful performance and, as a result, developed curricular variations that, when introduced early and emphasized throughout a program of study, equally lead to capstone accomplishment. This session will provide the information related to the “tapas” approach, problem-based learning (PBL), and the case-study method.

THEME: High-Impact Learning Strategies

[47] Undergraduate Research Experiences Equals Women of Color in Science Careers

Patrice Moss, Trinity Washington University

Trinity Washington University is a liberal arts, minority-serving institution dedicated to educating women. This study was designed to assess the effectiveness of the research experiences of natural science students. A survey from the Student Assessment of Their Learning Gains (SALG) website was administered to students who completed at least one experience. Students rated their personal and professional gains as moderate to great. Additionally, 42 percent of students agreed that conducting research confirmed their interest in science and therefore were more likely to enroll in a doctoral program. Open-ended responses showed that their professional goals changed and that they wished to pursue research-focused careers. Overall, this study indicates that undergraduate research experiences can influence students, especially women of color, to pursue careers in science.

THEME: Diversity in Research
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| [48] Redefining “Undergraduate Research” across Disciplines: Garnering Institutional Support and Creating Opportunities for Underrepresented Students | Jamie Gilbert | Meghan Gilbert, Central Washington University  
The characteristics that define undergraduate research’s (UR) underrepresented student population (such as first-generation students, low-income background, and immigration status) tend to also predict the presence of a professional language gap. Students with these characteristics may not be exposed to academia the same way as students whose parents completed college, have higher annual incomes, or have emigrated from other countries. This gap can keep students from participating in UR opportunities because they lack the communication skills necessary to develop their UR interests or are unaware of the existence of UR opportunities (Stephens, Hamedani, and Destin 2014). Although research supports UR peer-mentoring partnerships and demonstrates the positive impact of the UR experience, there is still a lack of institutional funding available; therefore, UR programs must be strategic in garnering institutional support.  

**THEME:** Diversity in Research  

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| [49] Multifaceted Assessment Approach of SIUE’s Undergraduate Research and Creative Activities Program | Laura A. Pawlow, Southern Illinois University Edwardsville  The SIUE Undergraduate Research and Creative Activities Program is assessed using a 4-tiered approach; descriptions of each tier, as well as the pros and cons of each, are described. First, faculty and student participation data are tracked to determine whether we’re reaching our targeted population (in terms of breadth and diversity) and to determine growth and repeat participation in the program. Second, all participants are asked to complete an exit survey that assesses perceived learning outcomes as well as satisfaction with the program. Third, outcome data in the form of student/faculty co-authored, peer-reviewed scholarly products are tracked. Finally, data from less formal yet routine assessments, as well as anecdotal incidents and reports, are carefully tracked to complement the quantitative data with an additional qualitative focus.  

**THEME:** Assessment  

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| [50] Assessment of SIUE’s URCA Program: What Seven Years of Data Suggest | Laura A. Pawlow, Southern Illinois University Edwardsville  Seven years of data from the inception of the SIUE URCA program suggest many successes and some areas in need of improvement. In terms of participation, wide recruitment occurs across a variety of faculty and staff demographics and academic variables, with the notable exception of a relative underrepresentation of African American students and faculty. Both faculty and student participants perceive significant gains in the areas of critical thinking, communication, creativity, autonomy, ethics, research-based knowledge, and discipline-specific knowledge. The overwhelming majority of both faculty and student participants express a high level of satisfaction with the program, and student demand continues to exceed the number of positions available. Finally, more than 450 scholarly products have been coauthored by students and faculty as a result of their participation.  

**THEME:** Assessment  

**Poster Session 2—Wednesday, June 28th, 4:15pm–6:15pm**
BREAKFAST: 7:00am–8:30am; Humphries Ballroom

Session 5—Seminars

Thursday, June 29
8:30 am–9:45 am

WCUR:  Everything you want to know but were afraid to ask.
Location: 1899 Ballroom: Bright Angel

Presenters: Julio Rivera | Suzanne E. Rocheleau,
Carthage College | Drexel University

The First World Congress of Undergraduate Research was held in Doha, Qatar in November, 2016. Sponsored by Qatar University College of Arts and Sciences, CUR, BCUR and ACUR, WCUR hosted some 200 + researchers from 11 countries and 4 continents. Posters and Oral sessions were held in English and Arabic and, in addition to formal presentations on campus, the program included trips to important cultural sites in Doha.

Over the three days of the conference, presenters mingled freely throughout the campus and the city. Cross-cultural conversations began naturally with participants asking about the roles of women in society, family life, higher education and, to United States participants, the newly elected President of the United States.

In this short presentation we will share some photographs, our take-aways from this once in a lifetime event and some recommendations for the next World Congress, currently scheduled for 2019.

Adapting the Science Model for Undergraduate Research in the Arts and Humanities
Location: Agassiz

Gregory Young | Jenny Olin Shanahan
Montana State University Bozeman | Bridgewater State University

Many faculty members in the arts and humanities say they cannot do research with undergraduates. They cite a number of reasons, many of which can be resolved with a little creativity and some judicious adaptations of the science model. Those who feel guilty about having students do “grunt work” may actually give students a false impression of what research entails by not having them start with such work. Students may possess skills that the faculty member does not, thereby creating a mutually beneficial collaboration. This presentation will include many replicable examples from several universities, and culminate with a robust discussion. Young and Shanahan will use their latest book, written with undergraduates, as an example. Participants are welcome to bring their most difficult examples to the table for triage.

THEME: High-Impact Learning Strategies
Provoists, Deans, and Program Directors: Opportunities for Collaboration
Location: Freemont

Dennis Munk | Chuck Lopez | Rebecca C. McMullen
Carthage College | Eastern Washington University | Georgia College and State University

The critical need for administrative support for UR programs is well understood by program directors and faculty. Provosts, deans, and directors play different roles in supporting UR but can benefit each other’s efforts through collaborative relationships that are sometimes difficult to establish due to hierarchical structures. The administrative working group of the education division has developed a set of potential strategies for each office to fulfill its responsibilities while contributing to effectiveness of the others. Presenters will share examples of successful collaboration solicited from members of the CUR Education Division and invite additional examples from the audience. Specific strategies that program directors might use to initiate collaboration with provosts and deans will also be discussed. The session will involve whole-group and small-group interactive activities.

THEME: Undergraduate Research Collaborations

Evaluation, Tenure, and Promotion: Role of Mentoring Student Research, Scholarship, and Creative Activities
Location: Doyle

Anne A. Boettcher | David Bowne | Aimee C. Knupsy | Janet A. Morrison | Juliane Soukup | Naomi Yavneh
Embry-Riddle Aeronautical University | Elizabethtown College | Alleghany College | The College of New Jersey | Creighton University

The foundation of undergraduate research, scholarship, and creative activity (URSCA) is strong mentorship. To increase participation and effectiveness, faculty mentorship needs to be a valued component of faculty workload, activity reports, and evaluation -- including those that lead to tenure and promotion. Explicit reporting of mentoring activities also facilitates data gathering regarding URSCA participation. Increasingly, institutions nationwide are formalizing recognition of mentorship in faculty workload and evaluation. There are a variety of models for incorporation that vary based on campus size, focus, and barriers to incorporation. In this interactive session, panelists will first discuss processes for integration of URSCA into faculty evaluation and recognition on their campuses and then invite participants to raise questions and discuss their institutions’ goals and challenges.

THEME: Undergraduate Research Administration and Budgeting—Nuts and Bolts

Asynchronous Progression with Undergraduate Research from Introduction to Capstone
Location: Rees

Scott Burgess | Dennis A. Vincenzi
Embry-Riddle Aeronautical University

Asynchronous undergraduate research can be highly successful when employed with an integrative approach that must start early and continue to reach an assessable end state. The Embry-Riddle Aeronautical University Worldwide Campus has an award-winning approach to online education that introduces, develops, and assesses research advancement throughout a student’s academic progression. An online program with research should introduce, promote practice, and achieve mastery of program outcomes (PO). Included in the learning outcomes (LO) for every higher level (300 and 400 level) course is the requirement to expose the student to research methodologies and promote research opportunities through interactive assignments whenever possible. Outcome mapping and alignments help mature student research skills. Challenges exist that must be addressed to set the conditions for program success.
Student-Focused, Student-Driven: Leadership Opportunities in Undergraduate Research at the University of Central Oklahoma
Location: 1989: Clear Creek

Michael S. Springer | John F. Barthell | Dana Jackson-Hardwick | Shay Rahm
University of Central Oklahoma

The Office of High-Impact Practices (OHIP) at the University of Central Oklahoma (UCO) how they engaged students in leadership of undergraduate research (UR). OHIP was established in 2014 to increase student involvement from a broader array of disciplines in high-impact educational practices. In addition to increasing participation in undergraduate research, creative, and scholarly activities, the office has created new opportunities to engage students in leadership. Administrator, faculty, and student panelists will discuss three opportunities: the student advisory board known as the Central Undergraduate Research Board (CURB), the student editorial committee that produces 1890: A Journal of Undergraduate Research, and the collaborative efforts between students and the library planning the annual research showcase.

THEME: Undergraduate Research Administration and Budgeting—Nuts and Bolts

BREAK and NETWORKING: 9:45am–10:00am
Effective Research Collaborations in the First Two Years of College: Four Case Studies
Location: 1899 Ballroom

Diana Spencer | John J. Van Niel | Ashley Hagler | Virginia Balke
Tulsa Community College | Finger Lakes Community College | Gaston College | Delaware Technical and Community College Stanton-W

More than 40 partner institutions in the Community College Undergraduate Research Initiative (CCURI) engage a diverse student body in course-based systematic investigation. The CCURI network institutions have used varied collaborations to develop and use course undergraduate research experiences (CUREs), overcoming barriers such as a lack of professional development and limited space, instrumentation, and time. This session will focus on best practices in collaborating across disciplines; between partners in the CCURI network; and with four-year institutions, state agencies, industries, and nonprofits. Topics to be addressed include ways to identify potential partners, develop course-appropriate projects, and provide professional development for instructors. Specific examples of how collaborations have enhanced instructor scholarship and student instruction from the network’s diverse institutions will be presented. These collaborations reduce academic silos and result in course-embedded research projects that provide in-depth investigations, rich discussions, and an informed citizenry. The research experiences provide students with the opportunity to participate in and produce data for a meaningful project as well as strengthen critical employability skills, including critical thinking, communication, and teamwork. This session will be of interest to community college instructors and faculty from four-year institutions who are building research opportunities within the first two years of college study.

THEME: Undergraduate Research Collaborations

Leveraging Undergraduate Research to Address Meaningful Campus Issues
Location: Agassiz

Laura Naumann | Richard P. Yao | Robin Cresiski
Nevada State College | Nevada State College | Goucher College

As college becomes more accessible to students from all backgrounds, colleges and universities must reconsider how to best administer programs that will support and respond to the needs of their diverse student bodies. As administrators strive to make data-driven decisions, evaluation and assessment can be resource-intensive. This session will explore how to leverage existing campus resources and faculty expertise to simultaneously provide students experiential learning opportunities and generate data that can inform campus-wide policy and administrative decision-making. A case study example will be presented in which faculty and students received oversight from administrators to research a major campus need (student mental health) and provide recommendations. Attendees will brainstorm areas of campus need and consider logistics of carrying out this type of collaborative research.

THEME: Undergraduate Research Collaborations

High-Impact Learning through Mentored Research Opportunities
Location: Doyle

Tsu-Ming Chiang | Doreen E. Sams | Karen J. Berman | J. F. Yao
Georgia College and State University

Higher education faces challenges in providing students with broad knowledge and skills to prepare them for a fast-changing world. In a public liberal arts university, mentored undergraduate research is valued, as it motivates students to explore areas of interest, builds research and critical thinking skills for employment, and advances student goals for their studies. In this panel, experiences in building high-impact learning through mentored projects from multiple disciplines in STEM and non-STEM areas will be shared. This presentation will be of interest to faculty, staff, and administrators seeking ideas and/or solutions to create high-impact learning from mentored projects. The audience will be invited to share their unique challenges and methods and thus continue the dialogue about creating high-impact learning in undergraduate education.

THEME: High-Impact Learning Strategies
UR Donors 101: Fund-Raising Strategies for Supporting Undergraduate Research—From Identifying Prospects to Showing Gratitude
Location: Freemont

Michael A. Palladino, Monmouth University

Institutions need to be creative in funding undergraduate research (UR) experiences for students and faculty. An introduction to best practices in fund-raising to support UR will include the following: institutional infrastructure and support, stages of the fund-raising cycle that encompass identifying and connecting with prospects (alumni and others), cultivating prospects, making the “ask” for a gift, handling donor stewardship, and expressing donor gratitude, as well as managing annual, major, and planned gifts. A model for funding a 12-week student-faculty collaborative research initiative, the Monmouth University Summer Research Program for high school and undergraduate students, will be the primary example discussed. Specific examples of individual and corporate philanthropy models to support the program will be presented. Attendees will be asked to share experiences, successes, and failures in fund-raising efforts; alternative strategies for success also will be discussed.

THEME: Undergraduate Research Administration and Budgeting—Nuts and Bolts

Incorporating an Asset-Bundles Approach into Undergraduate Research Training
Location: Rees

Lourdes E. Echegoyen, University of Texas at El Paso

For underrepresented and/or financially disadvantaged students, opportunities to develop their scientific abilities are limited due to multilayered challenges associated with their gender, race/ethnicity, family circumstances, and socio-economic status. The student development activities of the BUILDing SCHOLARS Center at the University of Texas at El Paso have been established using the Johnson-Bozeman theoretical framework, which focuses on the premise that progress in recruiting and retaining the most talented minority students in the sciences requires institutional investment in five types of asset bundles: educational endowments, science socialization, network development, family expectations, and material resources. This session will guide attendees in developing a draft plan that incorporates various activities for these asset bundles within an undergraduate research context at their respective institutions.

THEME: Diversity in Research

Lunch: 11:30 am–1:00 pm – Humphries Ballroom

Please remember to check out of the Residence Hall by Noon if you are scheduled to depart on this day.
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58A – Drury Inn, with conference rooms

3 – 1899 Ballroom conference rooms

🌟 – Embassy Suites

29 – Ernest Calderon Dorm

P16A – dorm parking & bus stop
Note Our New Remittance Address!

The CUR National Office moved on April 1.

734 15th St. NW, Suite 850
Washington, DC 20005