ConnectUR 2024 Annual Conference Program

Onsite | The Hotel in College Park, College Park, MD | June 24-26, 2024

CUR.org/ConnectUR | #ConnectUR
Questions? Please contact CUR@CUR.org

About ConnectUR

What is ConnectUR?
The annual ConnectUR conference will provide a forum around undergraduate research where on-site and online attendees can draw on knowledge exchange, scholarship of teaching and learning, group discussion, tangible and scalable practices, and community building to expand their efforts.

This year's conference theme is Undergraduate Research: What's Next? The conference will focus on revealing what is on the horizon for students, faculty, and institutions in undergraduate research, scholarship, and creative inquiry, even as we pause to take notice of how far we have come. Attendees will get insights on how undergraduate research has, could, or will become a tool for future exploration.

Who Attends?
This conference is open to all individuals with a commitment to or interest in the practice of undergraduate research and the impact it has on participants. That includes faculty, mentors, administrators, VPAAs, deans, directors, and many more.

Conference Tracks

Contribution to the Practice of UR
Innovative and emerging pedagogy, strategy, techniques, and/or case studies in an individual course or discipline engaging students in the practice of undergraduate research, scholarship, and creative inquiry.

Structures and Models for Building and Growing Undergraduate Research
Infrastructure and support of undergraduate research, scholarship, and creative inquiry with a particular focus on institutional-, program-, and departmental-level strategies. Development of systems, structures, and models that support and elevate undergraduate research within the curriculum and co-curriculum.

Diversity, Equity, + Inclusion
Developing culture, community, and practice in undergraduate research that actively prioritizes diversity, equity, access, and inclusion both in general and specifically for minoritized and historically excluded groups.

Advocacy, Partnerships/Collaboration + Community
Developing and strengthening shared commitments, collaborations, and cohesion across units, divisions, communities, and organizations to increase opportunities and promote greater visibility of undergraduate research, scholarship, and creative inquiry.

Assessment, Accountability + Sustainability
Evaluation, assessment, target outcomes, sustainability, and measures of success for undergraduate research, scholarship and creative inquiry across courses, programs, departments, or institutional levels. Submissions for entry-level through advanced stages are welcome.

Special Thanks

We would like to extend our deepest gratitude to the Annual Conference Knowledge and Community Building Advisory Group members and the Abstract Reviewers for their invaluable contributions to this conference. Their dedication, expertise, and meticulous efforts in reviewing and selecting abstracts have been instrumental in ensuring the high quality of this event.

Thank you for your hard work and commitment to excellence!

Annual Conference Knowledge and Community Building Advisory Group Members

- Jeanetta Sims, Professor and Former Dean, University of Central Oklahoma (Chair)
- Anne Boettcher, Assistant Dean of Research, Undergraduate Research Institute, Prescott Arizona Campus, Embry-Riddle Aeronautical University
- Tsu-Ming Chiang, Professor of Psychology, Georgia College & State University
- Joyce Fernandes, Professor, Department of Biology and Director, Office of Research for Undergraduates, Miami University
- Kevin Kaufmann, Program Manager for Undergraduate Research, Center for Engaged Learning, Teaching and Scholarship, Loyola University Chicago

Abstract Reviewers

- Lance Barton, Director of Undergraduate Research, The University of North Carolina at Charlotte
- Anne Boettcher, Assistant Dean of Research, Undergraduate Research Institute, Prescott Arizona Campus, Embry-Riddle Aeronautical University

- Amy Buddie, Director of Undergraduate Research and Professor of Psychology, Kennesaw State University
- John Carlson, Academy Professor and Professor Emeritus of Molecular Genetics and Past Director of The Schatz Center for Tree Molecular Genetics, Penn State
- Tsu-Ming Chiang, Professor of Psychology, Georgia College & State University
- Iain Crawford, Faculty Director of Undergraduate Research & Experiential Learning, University of Delaware
- Sumana Datta, Assistant Provost for Undergraduate Studies and the Executive Director of LAUNCH, Texas A&M University
- Janice DeCosmo, Associate Vice Provost for Undergraduate Research and Associate Dean of Undergraduate Academic Affairs (Retired), University of Washington
- Winny Dong, Founder and Faculty Director, Office of Undergraduate Research and Founder and Director, Achieve Scholars Program, California State Polytechnic University - Pomona
- Joyce Fernandes, Professor, Department of Biology and Director, Office of Research for Undergraduates, Miami University
- Karen Gunther, Professor of Psychology, Wasbash

- Kevin Kaufmann, Program Manager for Undergraduate Research, Center for Engaged Learning, Teaching and Scholarship, Loyola University Chicago
- Susan Klinedinst, Associate Professor of Biology, Schreiner University
- Michael Kovach, Professor of Biology, Baldwin Wallace University
- Brian Lagotte, Director of Undergraduate Programs, Global & International Studies, The University of Kansas
- James LaPlant, Dean of the College of Humanities and Social Sciences and Professor - Political Science, Valdosta State University
- Marcus Leppanen, Assistant Professor of Psychology, University of Mary Washington
- Suzanne Lindt, Professor and Chair, Department of Undergraduate Education, Midwestern State University
- Jacqueline McLaughlin, Professor of Biology, Penn State Lehigh Valley
- Hussein Mohamed, Professor of Biology, Dalton State College
- Michael Palladino, Provost and Vice President for Academic Affairs, Stockton University
- Irene Reed, Chair and Professor, Department of Biology, University of Saint Joseph
- Silvia Ronco, Senior Program Director, Research Corporation for Science Advancement
- Aaron Sakulich, Associate Professor of Civil, Environmental, & Architectural Engineering, Worcester Polytecnic Institute
- Doreen Sams, Associate Professor, Information Technology and Marketing, Georgia College & State University
- Allison Schwartz, Director, Office of Undergraduate Research, University of West Florida
- Jeanetta Sims, Professor and Former Dean, University of Central Oklahoma
- Tiffanie Turner-Henderson, Assistant Professor, Marketing, Wingate University
- Korine Wawrzynski, Assistant Dean, Academic Initiatives & Director, Undergraduate Research, Michigan State University

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6/24/2024 | 7:30 AM-8:00 AM, ET | Prefunction A
Preconference Workshop Check-in (Pre-registration Required)

6/24/2024 | 8:00 AM-10:00 AM, ET | Salon E and Salon F (Respectively)
Preconference Workshops (Pre-registration Required)

Beyond Buzzwords: Upholding Undergraduate Research Practices Through Action, Not Words

Jamie Gilbert[1], Timothy Raines[2], Sophie Pierszalowski[3]
[1]Valdosta State University, Valdosta, GA, USA. [2]Raines Consulting, Fort Wayne, IN, USA
[3]University of Washington, Seattle, WA, USA

Brief Description
Join us for an empowering 2-hour workshop, and learn how to center your access initiatives on the work, not the words. As we navigate a shifting landscape where traditional terminology related to access and belonging faces new challenges, this session is your opportunity to dive deep into the essence of what makes our campuses vibrant. Through engaging discussions, innovative activities, and strategic planning sessions, we'll explore actionable, evidence-based strategies that transcend terminology yet uphold the core values of access and educational excellence. This workshop will equip you with the tools to not only adapt to legislative changes but also to lead with intention, ensuring every student and colleague benefits from an inclusive educational environment. Don't miss this chance to redefine the future of inclusivity in higher education with us!

Partnering to Build and Sustain Undergraduate Research, Scholarship, and Creative Inquiry at Your Institution

Anne Boettcher[1], Donna Chamely-Wiik[2], Susan Mendoza[3], Karen Rodriguez'G[4], Korine Steinke-Wawrzynski[5]
[1]Embry-Riddle Aeronautical University – Prescott Campus, Prescott, AZ, USA. [2]Florida Atlantic University, Boca Raton, FL, USA. [3]Grand Valley State University, Allendale, MI, USA. [4]University of Illinois Urbana-Champaign, Champaign, IL, USA. [5]Michigan State University, East Lansing, MI, USA.

Brief Description
With limited institutional resources and competing demands on programs and individuals, there is an increasing need to establish internal and external partnerships in the development and expansion of campus undergraduate research, scholarship, and creative inquiry. Join this Connect UR Pre-Conference Workshop facilitated by CUR Members from a diverse group of institutions to discuss effective partnerships, learn about the partnerships they have developed and how these have evolved, share your successes and challenges, and leave with a plan to move forward.

6/24/2024 | 10:30 AM-12:30 PM, ET | Salon E
Preconference Workshops (Pre-registration Required)

Leveraging Career-Readiness Language in Your Research and Creative Inquiry Experiences

Jeanne Mekolichick, Joe Wirgau, Leah Ellis, Abbi Green, Cora Burt
Radford University, Radford, VA, USA.

Brief Description
Participants will learn to reframe how to present their undergraduate research, scholarship, and creative inquiry (URSCI) experiences in terms of transferable career readiness skills identified by the National Association of Colleges and Employers (NACE) as in demand by employers. The aim of these student-centered career readiness adjustments is to close the articulation gap between what students learn from their URSCI experiences and what recruiters, employers, legislators, and families seek from higher education. Participants will: (1) become familiar with the NACE career readiness competencies, (2) learn how to apply the NACE comptencies to undergraduate research experiences (UREs), (3) see examples of how to apply the NACE competencies to UREs, and (4) begin an action plan for infusing NACE career readiness in your UREs.

6/24/2024 | 12:30 PM-6:00 PM, ET | Prefunction A
General Registration Check-in

6/24/2024 | 1:00 PM-3:00 PM, ET | Calvert Ballroom
CUR Division Representative and Councilor Meet-ups

6/24/2024 | 3:00-4:30 PM, ET | Calvert Ballroom
Presidential Transition

Lindsay Currie
CUR Executive Officer

Maria Iacullo-Bird
CUR President

Bethany Usher
CUR Immediate Past-President

Opening Plenary Session

Reimaging the Future of Undergraduate Research features a diverse panel discussing the possibilities that this year's ConnectUR theme, *What's Next in Undergraduate Research?,* invites us to imagine. Moderated by Karen Resendes, Associate Dean of Assessment and the First Year Experience and Professor of Biology at Westminster College, the panel includes Haseeb A. Kazi, Professor of Mathematics and Director of Study Abroad at Trine University; Patrick/Patricia Killion, Director of the Office of Undergraduate Research (OUR), Director of the First-Year Innovation & Research Experience (FIRE) and Office of the Senior Vice President and Provost at the University of Maryland; Amanda MacDonald, Affiliated Faculty of University Libraries at Virginia Tech; and Jennifer Thorington-Springer, Associate Dean of Student Affairs and Professor of English and Africana Studies at Indiana University Indianapolis.

6/24/2024 | 4:30 PM – 6:00 PM, ET | The Lobby Bar
Welcome Reception with Division Open House

6/25/2024 | 8:00 AM-6:00 PM, ET | Prefunction A
General Registration Check-in

6/25/2024 | 8:00 AM-9:00 AM, ET | Prefunction A
Breakfast

6/25/2024 | 9:00 AM - 10:00 AM, ET | Salon C
Track: Structures and Models for Building and Growing Undergraduate Research
Presentation Type: Workshop

Applying Foresight to Progress in Undergraduate Research: Context, Findings and Tools for Futures Thinking from the CUR Foresight Guidance and Resource Development Advisory Group

Karen Resendes[1], Sean Fox[2], Suzanne Lindt[3], Karen Rodriguez'G[4]
[1]Westminster College. [2]Carleton College. [3]Midwestern State University. [4]University of Illinois at Urbana-Champaign

Brief Description
Foresight explores decisions that move the work of a group toward the futures they want and away from those they do not. This process includes: defining organizational parameters and purpose for the use of foresight, scanning the external environment to identify and prioritize Drivers of Change that might impact future work, and applying foresight work to strategic decisions. The CUR Foresight Advisory Group initiated this process within the parameters of the mission and membership of CUR identifying three key Drivers of Change for the organization. This workshop session will include an overview of the Foresight process within the context of CUR and explore the Advisory group's key drivers. Session participants will also be provided guidance on how to explore the possible impact of these Drivers on their own work, and opportunities to explore other possible Drivers that may impact the future of Undergraduate Research within their own institutions and contexts.

Key Takeaways
Participants of this workshop will:
- Develop a basic understanding of the concept and process of Foresight and Drivers of Change
- Gain knowledge of the Foresight Drivers of Change identified by the CUR Foresight Advisory Group
- Identify tools to select other Foresight Drivers of Change that could impact their personal work in Undergraduate Research Scholarship and Creative Inquiry

Audience Interest
On-campus Stakeholder Attendees (e.g., Honors Colleges, scholarships, fellowships, libraries, etc.), Executive Leadership Attendees, Undergraduate Research Program Director and Staff Attendees, Faculty Attendees

Additional Author(s)
Janice DeCosmo and Janet Morrison

6/25/2024 | 9:00 AM - 10:00 AM, ET | Salon D
Track: Advocacy and Partnerships/Collaboration and Community
Presentation Type: Oral Presentations

1. Preparing the Social Science Student through Mentored Client-Based Experiential Research Projects to be Competitive in the 21st Century Marketplace: Collaboration through Community Partnerships

Doreen Sams[1], Anne Price[2]
[1]Georgia College & State University, Milledgeville, GA, USA. [2]Valdosta State University, Valdosta, GA, USA

Doreen Sams   **Anne Price**

Brief Description
In the world of work, organizations (i.e., for-profit and not-for-profits) seek practical skills and knowledge that connect core business knowledge to the requirements of the 21st Century (NACE, 2023). As part of the business world, marketing uses knowledge gained through psychology and sociology to produce successful outcomes for the customer. Client-based experiential marketing research projects offer students the practical experience employers want by connecting course material to career competencies sought in the 21st Century business world. This presentation will provide examples of successful projects and guidelines for experiential research projects that are applicable across disciplines that connect the eight 21st Century competencies associated with career readiness (as identified by the National Association of Colleges and Employers (NACE)), resulting in greater career opportunities for college research students.

Key Takeaways
- Design, organize, and execute highly successfully mentored client-based experiential research (MC-BER) projects that engage students in collaborative MC-BER project partnerships.
- Understand how the role of partners (i.e., mentor/instructor, project client, and students) is essential in providing them with the skills and knowledge needed to gain desired competencies for the 21st Century marketplace.

Audience Interest
Faculty Attendees, Undergraduate Research Program Director and Staff Attendees, Executive Leadership Attendees

2. Impact of Research Presentations on 1st- and 2nd-Year Underserved Students
    Annabelle Aymond, Matthew Bizzell
    Texas A&M University, College Station, TX, USA

    Brief Description
    Reflection responses from three student cohorts of more than 100 underrepresented students each attending undergraduate research symposiums (pre- and post-pandemic) were analyzed to evaluate the impact of exposure to undergraduate research. Five common reflection themes provided insight into how students opinions of research changed and what topics were most interesting to them. Results from previous CUR workshops and presentations by us and others

on post-pandemic student needs have been used to strategically design pedagogy and provide scaffolding to provide context and background for undergraduate research opportunities. Our current results will show how our pedagogical changes have affected student interest, engagement, and success with undergraduate research programming.

Key Takeaways
- Develop undergraduate research programming that increases inclusivity for historically marginalized student groups.
- Appraise the impact of undergraduate research forums.

Audience Interest
Undergraduate Research Program Director and Staff Attendees

3. Building an Undergraduate Research Office When You Are Flying Solo and Your Budget is Limited

Brandi Taylor
Spelman College, Atlanta, GA, USA

Brandi Taylor

Brief Description
When you don't have support staff and you are the director, manager, and coordinator you can learn to build a network of support. Craft a plan to accomplish programmatic goals from the ground up. During this session we will explore strategies to create a network of resources that feed into your budding office. We will discuss student journeys, a revived research symposiums, and the web of collaborations that have made it all happen.

Over the course of 4 years the Spelman College Undergraduate Research & Training Programs Unit has chiseled away at the silos that have existed within the four academic divisions at Spelman College. I'd like to focus in on the key components that have added to the growth of the URTP Unit such as flexibility to grow and learn, desire to foster relationships, and room to innovate and build collaborations.

Key Takeaways
- Gain insight on a variety of strategies used to build a thriving undergraduate research office.
- Organize your plan for increasing undergraduate research visibility on your campus.

Audience Interest
Undergraduate Research Program Director and Staff Attendees

6/25/2024 | 9:00 AM - 10:00 AM, ET | Salon E
Track: Assessment, Accountability and Sustainability
Presentation Type: Workshop

Undergraduate Research Certificate: A Preliminary Analysis of Student Recipients, Evaluation of Accessibility to Diverse Populations, and Lessons Learned

Donna Chamely-Wiik, Jennie Soberon
Florida Atlantic University, Boca Raton, Florida, USA

Brief Description
There remains a need to incentivize and quantify student engagement in undergraduate research. Celebrating this high-impact practice can be accomplished by offering stacked credentials such as an Undergraduate Research Certificate. At Florida Atlantic University (FAU), we established a 12-credit university-wide certificate program to recognize undergraduate students for systematic development of excellence in research. The certificate was designed with our diverse student population in mind, ensuring accessibility to both our traditional and transfer student population. This presentation will describe the criteria for the Certificate, and how FAU implemented and collected data on student engagement. We will share our preliminary data and analysis of the certificate recipients over the past three years to see whether we are achieving our goal of accessibility. Presenters will engage session attendees in a discussion of strategies employed including certificate selection criteria, establishing institutional partnerships, and share lessons learned and next steps.

Key Takeaways
- Understand the importance of recognizing research/creative inquiry
- Discuss their institutional efforts to quantify and recognize student engagement in research through credentials such as a Research Certificate
- Gain perspective on potential institutional partnerships necessary to establish and sustain a certificate
- Review preliminary data on student recipients and learn strategies for designing a certificate with student accessibility in mind
- Outline next steps towards achieving the goal of access and recognition through a certificate

Audience Interest
Faculty Attendees, Undergraduate Research Program Director and Staff Attendees, Executive Leadership Attendees

6/25/2024 | 9:00 AM - 10:00 AM, ET | Salon F
Track: Structures and Models for Building and Growing Undergraduate Research
Presentation Type: Oral Presentations

1. Collaborative Development of a Multidisciplinary Open Educational Resource to Support Undergraduate Student Researchers

    <u>Carinna Ferguson</u>, Catherine Spirito, Jaclyn Bruner
    University of Maryland, College Park, MD, USA

    Carinna Ferguson   **Catherine Spirito**   **Jaclyn Bruner**

    Brief Description
    Bring your UR resources - we need your help! Undergraduates, particularly underrepresented students, perceive barriers to accessing and engaging in undergraduate research (UR). Many resources are difficult to access or STEM-focused. At the University of Maryland Office of Undergraduate Research, we are developing an open educational resource (OER) for students to understand and prepare for UR opportunities.

    Workshop attendees will be provided access to a Google folder of resources from our OER. Attendees will engage in 2-3 small group discussions to share their own resources, experiences, and strategies for navigating one of five topic areas: (1) supporting underrepresented students seeking UR, (2) addressing information gaps, (3) fostering engagement in UR, (4) developing multidisciplinary UR resources, and (5) developing accessible online resources. Groups will share takeaways and resources at the end of each discussion. Attendees are encouraged to bring their own existing resources to the session to share and discuss.

    Key Takeaways
    *   Expand their professional networks by connecting with colleagues in small group discussions to enable ongoing collaboration and exchange of UR resources beyond the workshop.
    *   Inventory which undergraduate research skills and resources they provide their students and which skills they may need to provide students additional support with via workshop resources and the OER.

    Audience Interest
    On-campus Stakeholder Attendees (e.g., Honors Colleges, scholarships, fellowships, libraries, etc.), Undergraduate Research Program Director and Staff Attendees, Faculty Attendees

    Additional Author(s)
    Patrick/Patricia Killion

2. Using Peer Mentoring and Cognitive Apprenticeship to Scale Undergraduate Research Training for First-Year Students.

Brett Say
David C. Frederick Honors College - University of Pittsburgh, Pittsburgh, PA, USA

Brett Say

Brief Description
This presentation outlines an innovative approach to research peer mentoring that can be used, across disciplines, to scale undergraduate research training. Utilizing the frameworks of Cognitive Apprenticeship and near-peer mentoring, this model builds upon traditional approaches to research training while incorporating methods to help increase first-year student engagement and retention in the undergraduate research world.

Key Takeaways
After attending this session, audience members will be able to design a peer mentoring model to scale undergraduate research training that can be tailored to their respective institutions and disciplinary fields.

Audience Interest
Faculty Attendees, Undergraduate Research Program Director and Staff Attendees, Executive Leadership Attendees, On-campus Stakeholder Attendees (e.g., Honors Colleges, scholarships, fellowships, libraries, etc.)

3. Bridging Science and Business: STEM-BUSINES Collaborative Model for Building and Growing Student Research Fostering Sustainable Food Production at UCNJ, NJ

Mohamed Mohamed, Donovan Smalls
Union College of Union County,, Cranford, New Jersey, USA

Mohamed Mohamed

Brief Description
The presentation aims to engage the audience through an interactive format.
- Visuals, multimedia, and audience participation will create an engaging and dynamic learning experience. Text is provided by showcasing student innovation in novel hydroponic system designs, sustainable resource utilization, and data-driven optimization strategies.

- Proven results will be presented, including quantifiable data and metrics demonstrating the project's impact on student learning, research outcomes, and contributions toward sustainable food production.
- Ample time will be dedicated to open discussion and Q&A to facilitate knowledge exchange and collaborative learning.
- Attendees will also have opportunities to connect with presenters to share experiences and explore potential collaborations.

Key Takeaways
- Embrace collaborative research models and leverage them to empower students, address critical challenges, and drive innovation in sustainable food production.
- Discover innovative methods for interdisciplinary collaboration and share effective integration strategies.

Audience Interest
Undergraduate Research Program Director and Staff Attendees, Faculty Attendees

6/25/2024 | 9:00 AM - 10:00 AM, ET | Salon G
Track: Contributions to the Practice of Undergraduate Research
Presentation Type: Oral Presentations

1. "My Research Has No Data": Assessment of Strategies to Increase Disciplinary Inclusivity in a Proposal Based Undergraduate Research Program

   Jesse Guessford, Karen Lee, Caroline Toth
   George Mason University, Fairfax, VA, USA

   Brief Description
   The Undergraduate Research Scholars Program (URSP) at George Mason University is the signature program of the Office of Student Creative Activities and Research (OSCAR). During this session, we will share the results from six application cycles (Fall 2022 – Summer 2024) of a new student application and review rubric. The revision process of the application was presented at ConnectUR 2022 and was designed to increase the inclusion of projects that are not data driven into our signature program. We will compare these results with the results presented in 2020 that showed that proposals that were not data driven scored lower on faculty review rubrics and were less likely to be funded. This comparison will be used to assess the effectiveness of the changes examining the scoring and funding of proposals of non-data driven projects using the new application questions. In addition, in 2020, we proposed several actions to increase the participation of non-data driven projects in URSP. We will also discuss the results of those actions.

   Key Takeaways
   After attending this session, the audience members should be able to:
   - Examine ways that Arts and Humanities participation could increase on their campus.
   - Design changes in existing applications to make them applicable across disciplines and accessible to more students.

   Audience Interest
   Faculty Attendees, Undergraduate Research Program Director and Staff Attendees, Executive Leadership Attendees

2. Innovation in Recruitment & Community Building: Launching a YouTube Channel for Undergraduate Robotics Researchers

   Rachel Burcin
   Carnegie Mellon University, Pittsburgh, PA, USA

   Brief Description
   Want to expand your online presence? Forget traditional recruitment. Sharing your passion for your subject is more motivating and inspiring. This presentation will discuss how we created an accessible and engaging online seminar series with and for undergraduate researchers called RoboLaunch. The RISS RoboLaunch Initiative invited students worldwide, with a special emphasis on students across Pennsylvania, to explore robotics research, careers, and education. RoboLaunch comprised a seminar series and workshops featuring smart, digestible, and inspirational robotics briefings from top scientists, entrepreneurs, and educators worldwide, with each talk exploring a "big idea" in robotics and personal journeys in STEM. Now in year two, the series has researched over 20,000 viewers from more than 50 countries and it all started with a series of eight talks.

Key Takeaways
- Develop a YouTube Channel and content that encourages undergraduate students to explore research options at their home university and beyond.
- Directly engage REU site scholars in the design, outreach, and strategic implementation of a YouTube channel
- Support the leadership and growth of REU students as future leaders and agents of change

Audience Interest
Undergraduate Research Program Director and Staff Attendees

3. Teaching Reproducible Research Workflow Practices in Big Data Research

Thanicha Ruangmas
University of Maryland, College Park

Brief Description
While reproducibility is the gold standard for scientific research, only a fraction of economics researchers share their data and code. In my first-year undergraduate research methods course, I simplified programming in R using Quarto and enabled version control through GitHub's user-friendly graphical interface. Students then use Quarto to replicate the figures and tables from a published paper to trace the steps of an ideal research project, interpret its results, while demonstrating reproducibility on GitHub at the same time.

Key Takeaways
- Learn how to use and teach reproducible research workflow with Quarto and GitHub
- Be inspired to train students by replicating a published paper

Audience Interest
Faculty Attendees

6/25/2024 | 10:30 AM - 11:30 AM, ET | Salon C
Track: Structures and Models for Building and Growing Undergraduate Research
Presentation Type: Workshop

A Model for Facilitating the Development and Implementation of CUREs: The CUR Mentorship for Integrating Research Into the Classroom (MIRIC) Program

Lance Barton[1], Beth Beason Abmayr[2], Elizabeth Sandquist[3]
[1]University of North Carolina Charlotte, Charlotte, North Carolina, USA. [2]Rice University, Houston, Texas, USA. [3]Weber State University, Ogden, Utah, USA

Lance Barton   **Beth Beason Abmayr**   **Elizabeth Sandquist**

Brief Description
An effective high-impact pedagogical practice to improve undergraduate science instruction is through course-based undergraduate research experiences (CUREs). Despite strong evidence of CURE effectiveness at all levels of instruction and across various institution types, CURE implementation remains a daunting task. The CUR Biology Division's Mentorship for Integrating Research Into the Classroom (MIRIC) program provides a means for members with an interest in developing CUREs to gain insights into CURE development through long-term interaction with veteran teaching mentors. In this session, MIRIC Network organizers will work with participants to identify strategies and approaches to develop new CUREs or to refine existing CUREs based on their experience over several years of peer mentorship. The MIRIC team will share resourced developed through focused group discussions on specific topics related to CURE development including starting from scratch, assessment, and culturally-includive practices.

Key Takeaways
- Identify the common issues that face instructors developing CUREs and learn more about the specific issues that most relate to each participant's concerns.
- Develop an action plan for the conversion of one of their courses into a CURE or for refining an existing CURE based on the strategies that are discussed.

Audience Interest
Faculty Attendees, Undergraduate Research Program Director and Staff Attendees, Executive Leadership Attendees, On-campus Stakeholder Attendees (e.g., Honors Colleges, scholarships, fellowships, libraries, etc.)

Additional Author(s)
Jonathan FitzGerald, Susan Safford, Michael Wolyniak

6/25/2024 | 10:30 AM - 11:30 AM, ET | Salon D
Track: Advocacy and Partnerships/Collaboration and Community
Presentation Type: Workshop

A Holistic Approach to Advocacy: Federal, State, Local, and Institutional Efforts to Promote the Visibility and Sustainability of Undergraduate Research

Maria Iacullo-Bird[1], Della Cronin[2], Joyce Fernandes[3], Lisa Theo[4]
[1]Pace University, New York, NY, USA. [2]Bose Public Affairs Group, Washington, DC, USA. [3]Miami University, Oxford, OH, USA. [4]University of Wisconsin-Madison, Madison, WI, USA

Maria Iacullo-Bird   **Della Cronin**   **Joyce Fernandes**   **Lisa Theo**

Brief Description
Since the establishment of CUR in the late 1970s, advocacy continuously has been essential in obtaining both government and institutional funding for undergraduate research, and in promoting undergraduate research as a high-impact pedagogy for student success. This workshop will holistically address the breadth and impact of advocacy by discussing how to advocate at the federal, state, and local levels, and within the institutional context of colleges and universities. Learn how advocacy is defined and practiced, and how you can advocate for undergraduate research to benefit your campus and students!

Key Takeaways
- Understand how advocacy matters across governmental levels and institutional contexts by increasing both the visibility and sustainability of undergraduate research.
- Define advocacy and be introduced to advocacy at the federal level.
- Learn about examples of state, local, and institutional advocacy.

Audience Interest
Faculty Attendees, Undergraduate Research Program Director and Staff Attendees

6/25/2024 | 10:30 AM - 11:30 AM, ET | Salon E
Track: Structures and Models for Building and Growing Undergraduate Research
Presentation Type: Panel Discussion

Transforming Curricula and Culture to Center Undergraduate Research: A Theory of Change for Challenging Times

Elizabeth Ambos[1], Kerry Karukstis[2], Mitchell Malachowski[3]
[1]Ambos Consulting, Washington, DC, USA. [2]Harvey Mudd College, Claremont, CA, USA. [3]University of San Diego, San Diego, CA, USA

Brief Description
Many departments aspire to embed undergraduate research in curricula through a backward-designed, scaffolded approach. But what approaches work best to achieve rapid and comprehensive change? In this panel discussion, we will share a theory of change framework derived from a national-model NSF IUSE project that can be implemented in a three-to-five-year period. Panelists will present diverse perspectives on the best approaches to facilitate curricular and culture change, how to keep change moving forward, even in challenging situations, and how to sustain change. Session participants are encouraged to share how their department (or institution) is positioned with respect to transforming curricula and cultures to incorporate more undergraduate research. We will then reflect as a group on how departments can prepare for, engage in, and sustain their change process.

Key Takeaways
After attending this panel, the audience should be able to: (1) describe the primary steps in a robust theory of change to center undergraduate research in undergraduate degree curricula and culture; (2) discern the factors that can support or delay development of undergraduate degree programs that center undergraduate research, and how to keep change processes going through challenging times, (3) initiate analysis of specific policies and practices in their own department and institution that are key to moving curricular and cultural change forward, (4) envision where to begin the change process in their departments and institutions, through application of the theory of change approach.

Audience Interest
Faculty Attendees, Undergraduate Research Program Director and Staff Attendees, Executive Leadership Attendees

Additional Author(s)
Jeffrey Osborn and Jillian Kinzie

6/25/2024 | 10:30 AM - 11:30 AM, ET | Salon F
Track: Assessment, Accountability and Sustainability
Presentation Type: Oral Presentations

1. Bringing Undergraduate Research to Scale: Scaffolding Multiple Research Projects for All Students

    Arne Gericke, Kimberly LeChasseur
    Worcester Polytechnic Institute, Worcester, MA, USA

    Arne Gericke

    Brief Description
    Why does providing multiple research experiences to all students matter? This assessment of Worcester Polytechnic Institute's four years of increasingly complex open-ended research projects offer an opportunity to examine the value of scaling undergraduate research experiences. Findings from a recent alumni study demonstrate that each research project provides distinct value. Not only does that value accumulate over multiple experiences, the impact of early research projects amplifies the learning during subsequent ones. Attendees of this presentation will learn how to 1. Describe the value of multiple undergraduate research experiences for scaffolding student learning; 2. Articulate robust evidence for the power of early undergraduate experiences; and 3. Appraise their own undergraduate research experiences' ability to scaffold skills building.

    Key Takeaways
    - Describe the value of multiple undergraduate research experiences for scaffolding students' professional and technical skills, self-efficacy, and long-term personal and career outcomes
    - Articulate robust evidence for the power of early undergraduate experiences (in the first year) to amplify the skills gained in undergraduate experiences in upperclass years
    - Appraise their own undergraduate research experiences in terms of their potential to scaffold skills being used in subsequent research experiences

    Audience Interest
    Executive Leadership Attendees, Undergraduate Research Program Director and Staff Attendees, Faculty Attendees, On-campus Stakeholder Attendees (e.g., Honors Colleges, scholarships, fellowships, libraries, etc.)

2. Enhancing the Writing Competencies of Undergraduate Researchers

    Thomas Polk
    George Mason University, Fairfax, VA, USA

    Brief Description
    This presentation will explore how undergraduate research experiences can be enhanced to better help prepare students to write beyond the university. The ability to effectively write is commonly recognized as a core 21st century career competency and is important to the success

of research, scholarly, and creative pursuits both in school and after graduation. The presenter argues that UR fellowships provide a significant opportunity to enable career-ready writing, but this opportunity could be enhanced by preparing mentors to more intentionally guide the development of genre knowledge (Tardy, 2009), knowledge essential to expert communications in a field or profession. A qualitative study of eleven undergraduate researchers highlights the development of undergraduate researchers' genre knowledge and the opportunities where this development could be enhanced. Based on this study, the presenter will offer recommendations that can help UR mentors and program administrators leverage these opportunities to better facilitate career-ready writing.

Key Takeaways
- List key concepts and types of knowledge important to writing development
- Articulate instructional strategies that facilitate writing development

Audience Interest
Faculty Attendees, Undergraduate Research Program Director and Staff Attendees, On-campus Stakeholder Attendees (e.g., Honors Colleges, scholarships, fellowships, libraries, etc.)

6/25/2024 | 10:30 AM - 11:30 AM, ET | Salon G
Track: Diversity, Equity, and Inclusion
Presentation Type: Oral Presentations

1. **Using Feminist Storytelling Principles as a Guide to Diversify Undergraduate Research**

   <u>Jaclyn Bruner</u>
   University of Maryland, College Park, MD, USA

   Brief Description
   This presentation explores how employing feminist principles of storytelling, or adopting a political grammar that makes space for diversity, equity, and inclusion principles, is integral to answering "What's Next?." The narratives we create, attend to, and communicate to each other deeply matter. The case study in this presentation uses feminist storytelling principles to tell a little known feminist story to illustrate a broader observation about the importance of seeking to diversify our relationship to the research we do, the researchers we mentor, and ultimately, the stories we tell. By sharing the process of creating "With Love & Struggle," an episodic podcast researched and written by undergraduate researchers in UMD's FIRE Program in the Summer of 2023, this presentation considers the ways in which UR offers allows for communication beyond our specific fields, preparing students and to enter a broader, civic conversation already fluent in a variety of ideas and perspectives.

   Key Takeaways
   - Define how feminist principles inform their own research or research contexts
   - Consider how to incorporate a diversified approach to the stories they tell about their work
   - Reflect on their role as mentors, intentionally committing to increasing understandings of diversity, equity, and inclusion in undergraduate research contexts

   Audience Interest
   Faculty Attendees, Undergraduate Research Program Director and Staff Attendees, On-campus Stakeholder Attendees (e.g., Honors Colleges, scholarships, fellowships, libraries, etc.)

2. Improving Mentorship in STEM: Creation of a Culturally Responsive Mentor Development Workshop

   <u>Aly Busse</u>
   Mote Marine Laboratory, Sarasota, FL, USA

   Brief Description
   Are you looking for ways to bring more effective mentorship to undergraduates at your institution? The NSF-funded LSAMP Marine Science Laboratory Alliance Center of Excellence (MarSci-LACE) has created the Mentor Development Workshop. Utilizing the Entering Mentoring curriculum, this research-based training interactively engages undergraduate research mentors of every level through the following training modules: Introduction to Mentoring, Psychosocial Factors of Internships, Ally Skills, Culturally Responsive Mentoring, and Mentor Plan Development.

   Given the overwhelming evidence of the impact of strong mentorship, particularly for students from historically excluded populations, there is an increasing demand for demonstrated high-quality and innovative mentor trainings and materials that are easily implemented and appropriate for mentors of every level. This is especially critical in fields where the vast majority of mentors are from non-minority populations.

Key Takeaways
- Describe attributes in the Mentor Development Workshop
- Define outcomes for mentors that have participated in the Mentor Development Workshop
- Obtain information on requesting additional resources to share with faculty and staff

Audience Interest
Faculty Attendees, Undergraduate Research Program Director and Staff Attendees, Executive Leadership Attendees

3. The Emergence and Impact of Artificial Intelligence on the Stature of Diversity, Equity, and Inclusion in Undergraduate Research

   Haseeb Kazi, Areeba Kazi
   Trine University, Angola, IN, USA

Haseeb Kazi   **Areeba Kazi**

Brief Description
Being able to uphold higher norms of diversity, equity, and inclusion (DEI) in any academic and research setup is simultaneously an imperative practice as well as a critical challenge. That said, the incorporation of artificial intelligence (AI) not only adds more to the challenge, but also warrants more careful study, analysis, and recommendations on perceiving and optimizing the impact. Along with discussing a few appealing models and trends, we would like to share our recommendations on how to positively and productively embrace - and to what extent - this technological innovation without making any compromises on the high-impact practice of DEI in the culture and community of UR.

Key Takeaways
After attending this session, the audience should be able to appraise the impacts of AI on diversity, equity, and inclusion whilst effectively pursuing and mentoring undergraduate research.

Audience Interest
Faculty Attendees, Undergraduate Research Program Director and Staff Attendees, On-campus Stakeholder Attendees (e.g., Honors Colleges, scholarships, fellowships, libraries, etc.), Executive Leadership Attendees

6/25/2024 | 11:30 AM-12:30 PM, ET | Calvert Ballroom
Lunch and Discussion Tables

Table 1: Recognition and Mentoring – *Eric Hall*
Table 2: What Does Advocacy for Undergraduate Research Mean? – *Maria Iacullo-Bird, Della Cronin, Joyce Fernandes, and Lisa Theo*
Table 3: Artificial Intelligence and Undergraduate Research – *Sean Fox*
Table 4: Strategies for Getting Undergraduate Research Started – *Anuj Sharma*
Table 5: Strategies for Undergraduate Research Funding – *Bethany Usher*
Table 6: Engaging New Faculty in Undergraduate Research – *Donna Chamely-Wiik*
Table 7: How to Get Involved in the Council on Undergraduate Research – *Ruth Palmer*
Table 8: Scaffolding Undergraduate Research into the Curriculum – *Beth Cunningham and James LaPlant*
Table 9: Partnering for Undergraduate Research Success – *Lance Barton*
Table 10: Recruiting and Attracting Students to Participate in Undergraduate Research – *Winny Dong*
Table 11: Connecting with Fellow Undergraduate Research Program Staff and Directors - *Linda Blockus*
Table 12: Access to Undergraduate Research for Underrepresented Groups – *Jennifer Thorington Springer*
Table 13: How to Talk about Undergraduate Research in Your Tenure and Promotion Review - *Anne Boettcher*

6/25/2024 | 12:30 PM - 1:30 PM, ET | Salon C
Track: Structures and Models for Building and Growing Undergraduate Research
Presentation Type: Workshop

Empowering Educational Excellence: Strategies for Fostering and Nurturing Student-Driven Initiatives in a Dynamic Learning Environment

Alexis Miller, Shaun Elie, Lauren Gapczynski
Florida Atlantic University, Boca Raton, Florida, USA

Brief Description
Student-driven initiatives prepare students for real-world challenges by increasing creativity and innovation, leadership skills, and promoting critical thinking and problem-solving. At Florida Atlantic University (FAU) fostering student-led activities has helped to expand existing opportunities within our centralized office. Within the university, students' skills are developed through student-led organizations, events, and community engagement. Through our registered student organization(Council for Scholarship and Inquiry), students are encouraged to develop their own research-related events. Our student peer mentors also take the initiative through outreach and leading their own workshops. Students are also incentivized to engage with their peers outside of the classroom to foster a tight-knit research community.

Key Takeaways
- After attending this session, the audience will be able to recognize the benefits of encouraging students to become independent leaders amongst their peers.
- After attending this session, the audience will be able to think creatively about strategies to facilitate student-led initiatives

Audience Interest
Faculty Attendees, Executive Leadership Attendees, Undergraduate Research Program Director and Staff Attendees, On-campus Stakeholder Attendees (e.g., Honors Colleges, scholarships, fellowships, libraries, etc.)

6/25/2024 | 12:30 PM - 1:30 PM, ET | Salon D
Track: Structures and Models for Building and Growing Undergraduate Research
Presentation Type: CUR Fellows Session

Strengthening Undergraduate Research Experiences Through Cross-disciplinary and Inter-institutional Collaboration

<u>Geneive Henry</u>
Susquehanna University

Geneive Henry

Brief Description
The advantages of collaborative research partnerships are well-documented. However, these partnerships are sometimes challenging to implement in an undergraduate research program. This session will focus on several successful models of collaborative research and the benefits to my undergraduate research students.

Key Takeaways
- Learn about effective collaboration models that result in research opportunities for students from multiple disciplines.
- Think about ways to implement similar strategies in their own research programs.

Audience Interest
Faculty Attendees, Undergraduate Research Program Director and Staff Attendees

Track: Contributions to the Practice of Undergraduate Research
Presentation Type: Panel Discussion

Leveling the Playing Field: A Path for Publishing Undergraduate Research

Nathan Reyna[1], Lori Hensley[2], Kristen Johnson[3]
[1]Ouachita Baptist University, Arakadelphia, AR, USA. [2]Jacksonville State University, Jascksonville, AB, USA. [3]University of New Hamshire Manchester, Manchesterr, New Hampshire, USA

Brief Description
While engaging many students, assembling enough high-quality, reproducible data sets from a course-embedded undergraduate research experience (CURE) for a full manuscript can be challenging. However, the one-figure format of the journal *microPublication Biology* is ideally suited for publishing undergraduate research. We will discuss how PUI faculty can expand their research to the classroom, provide student training, and facilitate publication in *microPublication Biology* a peer-reviewed journal recognized by both NIH and NSF. Recognizing that not everyone is at the same location on the path to publication, we will highlight entrances along the way.

Key Takeaways
- Participants will learn about "Cell Blocks," a modular method to move their personal research into the classroom.
- Participants will understand the benefit of one-figure publications for course-based research and discuss the path to publication.
- Participants will have the opportunity to join a network of faculty to support engaging their students in authentic research experiences that culminate in published work.

Audience Interest
Undergraduate Research Program Director and Staff Attendees, Faculty Attendees, On-campus Stakeholder Attendees (e.g., Honors Colleges, scholarships, fellowships, libraries, etc.), Executive Leadership Attendees

6/25/2024 | 12:30 PM - 1:30 PM, ET | Salon F
Track: Structures and Models for Building and Growing Undergraduate Research
Presentation Type: Oral Presentations

1. Mapping Your Journey With FIRE: Fostering Professional Development in a Summer Research Experience for Undergraduates

   Sara Strey, Carolina Vieira
   University of Maryland, College Park, MD, USA

   Brief Description
   This talk shares the theory and practice behind the design, organization, and execution of the professional development seminar series that accompanies the FIRE Summer Research Internships at the University of Maryland, College Park.

   Key Takeaways
   - Identify key areas of need for students' professional development.
   - Design and deliver a compelling professional development seminar series for a summer REU.

   Audience Interest
   Faculty Attendees, Undergraduate Research Program Director and Staff Attendees

2. Creating Inclusive Research Fellowships to Grow Access to Undergraduate Research for All Students

   Jane Lehr[1], Victoria Siaumau[1,2], Erica Garcia[1], Lana Huynh[1]
   [1]Cal Poly San Luis Obispo, San Luis Obispo, CA, USA. [2]UC San Diego, San Diego, CA, USA

   Brief Description
   Financial support increases access to student research experiences. But is your model of financial support inclusive for all students? One important area of consideration is whether you utilize a student research fellowship or employment model. In this session, learn what Inclusive Fellowships are, how they enable offices of student research to serve students without work authorization, and how to create truly inclusive student research opportunities on your campus. Fellowships are generally defined as short-term opportunities, lasting from a few months to several years, that focus on the educational and/or professional development of the fellow. Inclusive Fellowships, as described by Immigrants Rising, are "fellowships that are accessible to individuals regardless of immigration status" as they do not require recipients to have work authorization or a social security number. Creating, funding, and advertising Inclusive Fellowship opportunities is one way that campuses can take action towards educational justice for immigrant students.

   Key Takeaways
   - Define the meaning of Inclusive Fellowships
   - Distinguish between student research fellowships vs. employment
   - Describe why some institutions of higher education and offices of student research are motivated to create Inclusive Fellowships
   - Identify next steps to take action in this area on their campus

   Audience Interest

3. Supporting a Community of Professional Track Faculty Dedicated to Undergraduate Research Mentorship

Patrick/Patricia Killion
University of Maryland, College Park, MD, USA

Patrick/Patricia Killion

Brief Description
Professional track faculty are increasingly involved in the mentorship of undergraduate research. My session will focus on best practices developed to recruit and train these individuals on an ongoing basis, and support, measure and assess their impact on students served in a manner that supports ongoing professional growth.

Key Takeaways
- Attendees will understand best practices in the recruitment and initial training of dedicated professional track (PT) undergraduate research mentors.
- Attendees will understand the importance and utility of PT undergraduate research mentors.
- Attendees will understand the categories of assessment and evaluation necessary to properly support, challenge, and grow dedicated PT undergraduate research mentors.
- Attendees will understand the best practices of research leadership excellence employed by dedicated PT undergraduate research mentors.
- Attendees will understand the best practices of educational excellence employed by dedicated PT undergraduate research mentors.
- Attendees will understand the best practices of mentorship excellence employed by dedicated PT undergraduate research mentors.
- Attendees will understand the best practices of professional development excellence employed by dedicated PT undergraduate research mentors.
- Attendees will understand how to create community and collaborative support for dedicated PT undergraduate research mentors.
- Attendees will understand how to use analytics to combine instrument and evaluation data for ongoing annual evaluation purposes.

Audience Interest
Faculty Attendees, Undergraduate Research Program Director and Staff Attendees, Executive Leadership Attendees, On-campus Stakeholder Attendees (e.g., Honors Colleges, scholarships, fellowships, libraries, etc.)

Additional Author(s)
Carol Vieira, Catherine Spirito, and Tameka Jones

6/25/2024 | 12:30 PM - 1:30 PM, ET | Salon G
Track: Contributions to the Practice of Undergraduate Research
Presentation Type: Oral Presentations

1. Pathways to STEM: Building an Academic Community through Short-Term Research Experiences

    Marianne Smith[1,2], Winny Dong[1], Amanda Riggle[1]
    [1]Cal Poly Pomona, Pomona, CA, USA. [2]Oak Crest Institute of Science, Monrovia, CA, USA

    Brief Description
    Pathways to STEM, through its offering of a series of short-term experiential learning opportunities, fosters the creation of a strong academic community, provides networking opportunities with professionals, builds students' self-confidence, and allows students to envision themselves as working in a STEM-oriented career.

    Key Takeaways
    - Describe a new model for providing early access to research skills for beginning undergraduate STEM students
    - Describe a range of outcomes possible for students who participate in short-term experiential learning modules
    - Identify possible partnerships that would make a similar program feasible at other institutions

    Audience Interest
    Faculty Attendees, Undergraduate Research Program Director and Staff Attendees, Executive Leadership Attendees, On-campus Stakeholder Attendees (e.g., Honors Colleges, scholarships, fellowships, libraries, etc.)

2. Embedding Data Science Skills in Psychology Laboratory Courses

    James Mantell, Aileen Bailey
    St. Mary's College of Maryland, St. Mary's City, MD, USA

    James Mantell   **Aileen Bailey**

    Brief Description
    Data science is a promising area of pedagogical innovation, but programmatic training in data science at the undergraduate level is limited. By incorporating data science training into the classroom, psychology programs have the potential to dramatically expand data science exposure at the undergraduate level. However, there is no consensus about what constitutes essential data science pedagogy within psychology and across programs. In this presentation, we will share our ongoing work that integrates data science experiences into psychology laboratory courses. We aim to explain why integrating data science into the curriculum has the potential to bolster undergraduate research within and outside of the classroom. By the end of the presentation, the audience will understand the potential for, and challenges of, introducing data science skills within psychology courses.

Key Takeaways
After attending this session, the audience should be able to…
- identify essential data science skills.
- understand the potential for data science instruction within psychology courses.
- describe an example of undergraduate research within a data science-infused psychology laboratory course.

Audience Interest
Faculty Attendees, Undergraduate Research Program Director and Staff Attendees

3. Are We Really Preparing Students to Be Career Ready? A Conversation on the Current State of the Literature on Undergraduate Research and Career Readiness

Jeanne Mekolichick[1], Amanda MacDonald[2], Eric Hall[3] Rosalie Richardson[4]
[1]Radford University, Radford, VA, USA. [2]Virginia Tech, Blacksburg, VA, USA. [3]Elon University, Elon, NC, USA. [4]Stetson University, DeLand, FL, USA.

Jeanne Mekolichick   **Amanda MacDonald**   **Eric Hall**

Brief Description
A substantial body of evidence demonstrates the value of undergraduate research experiences (UREs). Indeed, the skills, knowledge and dispositions gained often appear as employer priorities in hiring decisions. We see this demonstrated in AAC&U's 2021 Hart employer study; employers are 85% more likely or somewhat more likely to hire a student who had a mentored research experience. However, little is known about the activities institutions of higher education are offering to help students translate their UREs in ways that talent recruiters will understand and value. We offer results from a scoping review of available literature on UREs as a tool in preparing students to be career ready in the United States. We offer preliminary findings from a literature review on how institutions prepare UR students for their next steps, focusing also on gaps, and opportunities to better help our students articulate the value of UREs as career readiness competencies.

Key Takeaways
- Identify the career readiness competencies gained in engaging in undergraduate research experiences aligned to the National Association of Colleges and Empoyers (NACE) career readiness competencies.
- Describe themes in the literature articulating how higher education institutions in the US are intentionally supporting students in understanding skills gained in their undergraduate research experiences as career readiness competencies.
- Recognize gaps in current approaches and learn about opportunities to fill those gaps.

Audience Interest
Undergraduate Research Program Director and Staff Attendees, Faculty Attendees, Executive Leadership Attendees, On-campus Stakeholder Attendees (e.g., Honors Colleges, scholarships, fellowships, libraries, etc.)

Additional Author(s)
Kristin Picardo

6/25/2024 | 2:00 PM - 3:00 PM, ET | Salon C
Track: Structures and Models for Building and Growing Undergraduate Research
Presentation Type: Workshop

More Than a Showcase: Centering Students While Bringing an Undergraduate Research Symposium to Scale

Allison Mae S Perez, Sophie Pierszalowski
University of Washington, Seattle, WA, USA

Brief Description
While undergraduate research symposia are becoming more common, higher education institutions may still face barriers in trying to establish a symposium as a campus-wide signature event. In this workshop, we will share successful strategies associated with facilitating the University of Washington's Undergraduate Research Symposium – one of the largest in the country – which has been running for 27 years. We will focus our workshop on strategies to bring a symposium to scale while keeping students' wellness and connectedness at the center of the event. Each participant will leave the session with deliberate strategies for elevating, scaling, and/or creating a successful and student-centered undergraduate research symposium at their institution. We hope attendees will join us to discuss "What's Next" in undergraduate research symposia.

Key Takeaways
- Describe key strategies for bringing an undergraduate research symposium to scale and identify which strategies may be the most effective at their home institutions.
- Consider student-centered programming during and surrounding an undergraduate research symposium to promote student wellness and connectedness.

Audience Interest
Undergraduate Research Program Director and Staff Attendees

6/25/2024 | 2:00 PM - 3:00 PM, ET | Salon D
Track: Diversity, Equity, and Inclusion
Presentation Type: Workshop

Developing Individualized Support for Diverse Undergraduate Researchers to Increase Equity and Inclusion

Monica Hunter, Laila Kirkpatrick
Virginia Tech, Blacksburg, VA, USA

Brief Description
Participating in research, at any university, for the first time can be very intimidating for minoritized and historically excluded undergraduate students. Our workshop is structured to discuss topics on a) the challenges of providing individualized student support focused on diversity and inclusion, b) developing an inclusive and integrative set of workshops and professional development programs specific to the needs of undergraduate researchers, and c) key elements in conversations on equity and inclusion in undergraduate research. The main goal is to utilize key points of these discussions to create an outline of a personalized success plan for undergraduate researchers addressing the most common challenges in undergraduate research for minoritized and historically excluded students.

Key Takeaways
- Attendees we will have defined specific challenge areas in undergraduate research for minoritized and historically excluded students that will help with the design of a personalized success plan specific to undergraduate researchers. There are multiple directions success plans can take give the great number of factors affecting the student's research experience. This workshop will allow participants to generate ideas that can be categorized by "pathways" that each student can take keeping in mind the individual student, mentoring support and university resources.

Audience Interest
Faculty Attendees, Undergraduate Research Program Director and Staff Attendees

6/25/2024 | 2:00 PM - 3:00 PM, ET | Salon E
Track: Contributions to the Practice of Undergraduate Research
Presentation Type: Panel Discussion

Hosting a Successful Undergraduate Research Conference from Marketing to Reporting

James Sadler[1], Megan Wood[2], Karen Rodriguez'G[3], Craig Zywicki[1]
[1]Purdue University, West Lafayette, Indiana, USA. [2]Northwestern University, Evanston, Illinois, USA. [3]University of Illinois, Champaign, Illinois, USA

James Sadler   **Megan Wood**   **Karen Rodriguez'G**

Brief Description
During this panel discussion, three institutions will showcase pre-conference, during-conference, and post-conference components in an effort to answer "What's Next?" for undergraduate research conferences. Panelists will discuss successful and innovative approaches, such as involving undergraduates in targeted advertising, streamlining judging workflows, implementing complementary programming for creative arts students, and including mentor recognition in program guides. In addition to the panelists' perspectives, audience members will be encouraged to share their pain points or challenges, followed by an invitation for broader participation toward solutions. Given the limited staff capacity in many offices of undergraduate research, we hope to create a network to continue sharing examples of products or templates for workflows to streamline the implementation of these ideas.

Key Takeaways
- Describe innovative ways to develop or improve their undergraduate research presentation events using previously successful events as examples.
- Use a network of practitioners who direct, manage, or run undergraduate research presentation events to gather examples and ideas of new methods to bring to their institution.
- Develop strategies to tackle their biggest challenges for undergraduate research showcase planning and implementation.

Audience Interest
On-campus Stakeholder Attendees (e.g., Honors Colleges, scholarships, fellowships, libraries, etc.), Executive Leadership Attendees, Undergraduate Research Program Director and Staff Attendees, Faculty Attendees

6/25/2024 | 2:00 PM - 3:00 PM, ET | Salon F
Track: Structures and Models for Building and Growing Undergraduate Research
Presentation Type: Oral Presentations

1. A Professional Development Program to Develop CUREs and Promote Inclusive Research Opportunities for Undergraduates

   Laura Gough
   Towson University, Towson, MD, USA

   Brief Description
   CUREs (Course-based undergraduate research experiences) have been shown to improve engagement and retention of STEM students including those from groups historically under-represented in their disciplines. With funds from the Howard Hughes Medical Institute's Inclusive Excellence program, we created a professional development program to help STEM faculty design CUREs and incorporate inclusive approaches in their instruction. Over five years, 35 faculty developed 25 CUREs in Biology, Chemistry, Computer Science, Math, and Geosciences. In Biology, CUREs engaged three times as many students in research as traditional independent research projects and engaged a more diverse group of students that better reflected the demographics of our student body in research. We present an overview of our PD program, reflect on common barriers to creating CUREs, and suggest potential strategies to sustain the development and teaching of CUREs and the use of inclusive teaching approaches. Many aspects of this PD can be maintained without external funding and could be replicated elsewhere.

   Key Takeaways
   After attending this session, the audience should be able to:
   - Envision professional development elements to support creation of CUREs and inclusive teaching
   - Define key elements faculty need to create CUREs

   Audience Interest
   Faculty Attendees

   Additional Author(s)
   Matthew Hemm, Leann Norman, Jackie Doyle, Kelly Elkins, and Rommel Miranda

2. Delivering Collaborative Lab-based Undergraduate Research Experiences (LUREs) in the Social Sciences: A Model for Scaling Up Student Training

   Alissa Ruth
   Arizona State Univerisity, Tempe, AZ, USA

   Alissa Ruth

Brief Description

Differentiating laboratory-based undergraduate research experiences (LUREs) in the social sciences as a distinct training environment is beneficial for scaling up the training of undergraduates who are not in the science, technology, engineering, and mathematics (STEM) fields. In this presentation, we discuss: (1) why laboratory-based undergraduate research experiences (LUREs) make a special place for training students in social science research, (2) the best structure we have found for developing novice researchers in our LUREs, and (3) how we, as faculty, collaborate and create a team environment that supports students well-beyond their time in the lab. Students who have been in our lab are part of a large network of individuals who have gone on to successful careers becoming doctors, lawyers, researchers, professors, and professionals and serve as resources to other lab students.

Key Takeaways

- Design a multi-faculty, team, lab-based undergraduate research experience that can incorporate in-person and online/remote students into the social science research training process.
- Develop a curriculum to scaffold lab-based research training before taking on new projects and identify what tasks are best suited for novice student researchers.
- Identify key resources that supplement in-person professional development for students considering graduate school.

Audience Interest

Faculty Attendees, Undergraduate Research Program Director and Staff Attendees

Additional Author(s)

Melissa Beresford, Alexandra Brewis, Cindi SturtzSreetharan, and Amber Wutich

CONNECTUR 2024 ANNUAL CONFERENCE

6/25/2024 | 2:00 PM - 3:00 PM, ET | Salon G
Track: Contributions to the Practice of Undergraduate Research
Presentation Type: Oral Presentations

1. Is it Better? Faculty and Student Perspectives on the "Better Poster Design"

   <u>Caitlin Light</u>
   Binghamton University, Binghamton, NY, USA

Caitlin Light

   Brief Description
   Do you ever find it difficult to find the main takeaway message from a research poster, quickly interpret the text, or engage meaningfully with the presenter? If so, you are not alone. In 2019, in response to these difficulties, Mike Morisson proposed the "Better Poster Design" (BPD), an attempt to streamline sharing and learning of research at conference poster sessions. In this study we explore student, faculty and staff perspectives on BPD-style posters compared to traditional, text-heavy IMRaD-style posters. Through Likert-style survey questions and open-ended responses, we assessed the perceptions of these two poster designs and will share data that show acceptance of the BPD-style and perspectives that can inform more effective science communication and sharing of scientific findings at research conferences in the future.

   Key Takeaways
   - Make informed decisions on teaching traditional IMRaD vs. "Better Poster Design" poster styles.
   - Argue for or against each design by understanding the perspectives of student researchers, faculty, and staff.

   Audience Interest
   Faculty Attendees, Undergraduate Research Program Director and Staff Attendees, Executive Leadership Attendees, On-campus Stakeholder Attendees (e.g., Honors Colleges, scholarships, fellowships, libraries, etc.)

   Additional Author(s)
   Megan Fegley, Megan Dillon, Julia Gerstman, Alexandria Scarcella, Meghan Mantz, Grace McKissock, and Jossy Abraham

2. Students as Partners in Research: Using Evidence Synthesis Projects to Innovate on Mentored UR Models

   <u>Richelle Bernazzoli</u>, Ryan Splenda, Kimberly Piatt
   Carnegie Mellon University, Pittsburgh, PA, USA

   Brief Description
   "Students as partners" in teaching and learning is a rapidly growing pedagogical practice in the higher education context (Healey, et al., 2016). Within this framework, students are positioned

more as co-equal collaborators, thus empowering students to be more actively engaged in their learning. In this presentation, we propose that certain types of undergraduate research experiences especially lend themselves to application of the students as partners paradigm, highlighting a scoping review (a form of evidence synthesis [ES] research) that has employed multiple undergraduate researchers collaborating with a multidisciplinary research team. We explain how ES projects provide a critical space for innovation in relation to undergraduate research where students can be co-creators and equals within the process, even if they lack formal research experience or domain knowledge. As a result, we offer that such projects are an effective way for students to develop and strengthen their information and data literacy.

Key Takeaways
- Describe the scoping review process (a form of evidence synthesis [ES] research), including how this can be a pedagogical implementation of students as partners for undergraduate research.
- Implement evidence synthesis projects as co-created research opportunities within interdisciplinary undergraduate cohorts.
- Design ES projects that enhance students' information and data literacy by empowering them to contribute to the research design at various stages of a project.

Audience Interest
Faculty Attendees, Undergraduate Research Program Director and Staff Attendees, On-campus Stakeholder Attendees (e.g., Honors Colleges, scholarships, fellowships, libraries, etc.)

Additional Author(s)
Korryn Mozisek and Melanie Gainey

3. Protecting Undergraduate Research Students in the Social Sciences

Andrea Sell
California Lutheran University, Thousand Oaks, CA, USA

Brief Description
What does your institution do to protect undergraduate research students in the Social Sciences from harm while doing research? Who is responsible for creating policies and procedures that protect the research students? This presentation will cover recommendations from the literature that received high ratings from our survey respondents for their effectiveness and significance yet are infrequently or inconsistently used. These recommendations can be implemented at the individual or institutional level.

Key Takeaways
- Understand the potential harm that may affect undergraduate research students in the Social Sciences.
- Learn about two or three interventions that can be implemented at the individual or institutional level to prevent students from encountering these potential issues.

Audience Interest
Undergraduate Research Program Director and Staff Attendees, Faculty Attendees, Executive Leadership Attendees

Additional Author(s)
Angelina Garcia

6/25/2024 | 2:00 PM - 3:00 PM, ET | Jim Henson Room
Track: Assessment, Accountability, and Sustainability
Presentation Type: Workshop

Engaging with SPUR: How to Perform a Peer Review

Niharika Nath
New York Institute of Technology, New York, NY, USA.

Brief Description
In this session, SPUR's Editor-in-Chief, an Associate Editor, and an issue editor will lead an interactive session where participants will draft and discuss peer reviews for a communication submission to SPUR. Our session should interest all shareholders in the undergraduate research, scholarship, and creative inquiry (URSCI) enterprise. Our intent is to educate CUR members concerning the characteristics of high-quality URSCI scholarship, empowering our readers to be more critical in their evaluation of URSCI scholarship, our authors to produce high-quality archival works, and our reviewers to provide our authors and editors with critical, constructive, and actionable feedback on SPUR submissions. Lastly, we hope to inspire more CUR members to engage with SPUR as authors, reviewers, and editors.

Key Takeaways
- Understand how to critically assess and draft an effective peer review for an undergraduate research study intended for submission to SPUR. This information should benefit participants as critical readers, authors, and reviewers of undergraduate research, scholarship, and creative inquiry studies.
- Inspire more CUR members to actively engage with SPUR as authors, reviewers, and editors.

Audience Interest
Faculty Attendees; Undergraduate Research Program Director and Staff Attendees

6/25/2024 | 3:30 PM - 4:30 PM, ET | Salon C
Track: Structures and Models for Building and Growing Undergraduate Research
Presentation Type: Panel Discussion

Hearts and Minds: The Humanities Edge – Expanding Undergraduate Research Opportunities and Developing Communities of Support for Students in the Humanities

Adelina Rios Cequea, Darrell Arnold, Nicole del Rio
Miami Dade College, Miami, FL, USA

Brief Description
The Humanities Edge program, as supported by the Mellon Foundation at Miami Dade College, has built upon impactful strategies fostering student-engaged learning in the humanities while integrating innovative approaches to support interdisciplinary collaboration and mentorship within the curriculum. Through co-curricular and course-embedded research initiatives, a collaborative network of faculty, librarians, student scholars, and administrators across seven campuses has been instrumental in creating a community of support. Emphasizing early exposure and nurturing research skills, the program, including the Humanities Edge Undergraduate Research Program (HE-URP) and Excellence Across the Curriculum (EAC), has yielded over 115 student-led projects with 86 faculty mentors and collaborators. This session explores the challenges and advantages of such initiatives, offering insights on developing, maintaining, and optimizing cost-efficient models. Participants will gain valuable perspectives on the significance of investing in accessible undergraduate research programs, nurturing student-faculty connections, and building career capabilities from 'day one' in the community college experience.

Key Takeaways
- Develop Accessible Models: Participants will gain insights into designing and implementing accessible, cost-efficient, replicable, and customizable models for developing course-embedded undergraduate research programs.
- Organize Collaborative Networks: Attendees will be able to organize collaborative networks within their institutions, like the strategies employed by the Humanities Edge program, to support, sustain, and institutionalize undergraduate research, while fostering student academic success and career legibility.

Audience Interest
Faculty Attendees, Undergraduate Research Program Director and Staff Attendees, Executive Leadership Attendees, On-campus Stakeholder Attendees (e.g., Honors Colleges, scholarships, fellowships, libraries, etc.)

6/25/2024 | 3:30 PM - 4:30 PM, ET | Salon D
Track: Multi Track
Presentation Type: Oral Presentations

1. Training and Supporting Peer Leaders in an Undergraduate Research Program

   Track: Structures and Models for Building and Growing Undergraduate Research

   Kris Ryan, Alicia Batailles
   Florida State University, Tallahassee, Florida, USA

   Kris Ryan   **Alicia Batailles**

   Brief Description
   Undergraduate research programs often require a substantial number of student leaders. The Undergraduate Research Opportunity Program (UROP) at Florida State University employs over 70 student leaders across all disciplines who support over 500 student participants through classes that help students navigate the challenges of undergraduate research. This 60-minute interactive session will discuss the benefits of working with student leaders in UROP, the selection process, and the training they complete. In addition, we will explain future strategies, such as the support class, designed to assist UROP leaders throughout their teaching experience. We will also discuss recruitment strategies and incentives for UROP Leaders. As part of the interactive component, attendees will reflect on the student leaders in their programs, the challenges that arise, and the measures they are taking—or want to implement—to recruit, train, and support student leaders and alleviate some of these challenges.

   Key Takeaways
   - Explain the ways in which working with student leaders can build and grow their own undergraduate research programs.
   - Evaluate the selection and training process of student leaders in their own programs in order to support and improve upon current practices.
   - Analyze recruitment methods and incentives for student leaders in their own programs in order to increase recruitment and retention.

   Audience Interest
   Undergraduate Research Program Director and Staff Attendees, On-campus Stakeholder Attendees (e.g., Honors Colleges, scholarships, fellowships, libraries, etc.)

2. Articulating Connections Between Undergraduate Research and Other High Impact Practices

   Track: Advocacy and Partnerships/Collaboration and Community

   John Willison[1], Ruth Palmer[2]
   [1]University of Adelaide, Adelaide, SA, Australia. [2]The College of New Jersey, Ewing, New Jersey, USA

Brief Description

Undergraduate research (UGR) as a process provides rich and complex learning, both in terms of what is under investigation and of how it is being investigated. Along with UGR, there are other approaches that involve rich learning processes and come under the umbrella of High Impact Practices (HIPs), including Internships, Service Learning and Community-Based Learning, Collaborative Project-based learning, Writing-intensive courses, Learning Communities, and Global Learning (Kuh, 2008). This workshop considers how to strengthen partnerships and collaborations across institutions through explicitly articulated connections between UGR and other HIPs. We will introduce you to the overarching thinking processes, cognitive and affective elements and key questions of the Models of Engaged Learning and Teaching (Willison, 2020) as a way to theoretically connect UGR and other HIPs. After attending this session, you will have:

- Connected UGR and another HIP conceptually and practically in you institution.
- Framed a comparable way to evaluate UGR and another HIP

Key Takeaways

- Connect UGR and another HIP conceptually and practically in their institutions
- Frame a comparable way to evaluate UGR and another HIP's outcomes for students

Audience Interest

Faculty Attendees, Undergraduate Research Program Director and Staff Attendees, Executive Leadership Attendees, On-campus Stakeholder Attendees (e.g., Honors Colleges, scholarships, fellowships, libraries, etc.)

6/25/2024 | 3:30 PM - 4:30 PM, ET | Salon E
Track: Contributions to the Practice of Undergraduate Research
Presentation Type: Panel Discussion

Emerging Best Practices for Undergraduate Research in the Arts and Humanities

Jesse Guessford[1], Melodie Eichbauer[2], Jamie Gilbert[3], Jonathan Pollack[4], Elizabeth Lewis[5]
[1]George Mason Univeristy, Fairfax, VA, USA. [2]Florida Gulf Coast, Fort Meyers, FL, USA.
[3]Valdosta State University, Valdosta, GA, USA. [4]Madison Area Technical College, Madison, WI,
USA, [5] University of Mary Washington, Fredericksburg, VA USA

Brief Description
With five round-table respondents, the goal of this session is breadth rather than depth. The rationale is to provide a broad picture of the current state of undergraduate research in the arts and humanities, an area that often suffers from misconceptions and lack of attention when it comes to undergraduate research. Presenters will be making brief pitches designed both to educate and to excite audience members, leading them to greater engagement in CUR's mission and a sense of empowerment when they return to their home institution. Presenters are all drawn from highly active CUR Arts and Humanities councilors in order to showcase the leadership potential of this organization. Audience members will receive a handout including QR codes connecting them with the CUR Arts & Humanities website and directing them to individual Councilors with expertise in specific areas.

Key Takeaways
- Articulate the value of undergraduate scholarship and creative activity in the Arts and Humanities.
- Describe a variety of new ideas for undergraduate arts and humanities research, course-based or individually mentored.
- Shape their undergraduate institutional culture in ways that support arts-based research and humanities scholarship.
- Identify meaningful collaborations within the CUR membership and within their own institution.

Audience Interest
Undergraduate Research Program Director and Staff Attendees, Faculty Attendees

6/25/2024 | 3:30 PM - 4:30 PM, ET | Salon F
Track: Structures and Models for Building and Growing Undergraduate Research
Presentation Type: Oral Presentations

1. Enhancing Physics Education: Integrating Undergraduate Research in the Curriculum for Equitable Student Access, Avoiding Faculty Burnout, and Securing Administrative Support at a Teaching Focused Institution

   <u>Brett Taylor</u>
   Radford University, Radford, VA, USA

   Brett Taylor

   Brief Description
   The Department of Physics at Radford University completed a comprehensive, backwards-designed curriculum revision that embeds research and students gaining needed research skills within the curriculum. This was undertaken to provide equitable access to research for all students and to ensure all students could identify themselves as researchers upon graduation. This presentation will discuss some of the difficulties we encountered during the process as well as our solutions and also the victories we achieved to get to where we are now. While this was done in physics, we feel that a generalized version of our approach would also work in other disciplines.

   Key Takeaways
   - Design a potential road map to implementing this kind of curricular change across their program's curriculum;
   - Plan for potential common pitfalls while making these changes; and
   - Define the potential benefits of such a revision to gain the support of the administration in implementing these changes.

   Audience Interest
   Faculty Attendees

2. From Scholarship to Mentorship: Shifting the Conceptual Priority of the UR Program at Furman University

   <u>Erik Ching</u>
   Furman University, Greenville, SC, USA

   Brief Description
   Furman University received CUR's Award for Undergraduate Research Accomplishments (AURA) in 2016. In 2017, Furman launched a new institutional initiative, The Furman Advantage (TFA) that is based upon providing enhanced advising and 100% participation in an engaged-learning experience that meets the criteria of a High-Impact Practice (HIP). To that end, we shifted the way we evaluated and prioritized our UR experiences. While remaining committed to original scholarship and creative inquiry, we began to prioritize mentorship as the foundation of a

UR experience. We implemented a variety of subtle, but important changes to our program that have elevated the importance of mentorship, with various costs and benefits along the way.

Key Takeaways
- Understand Furman University's intentional changes to its UR program since 2017.
- Consider the ways in which the Furman case might inform their own institution's UR program.
- Appreciate that change comes with costs and benefits.

Audience Interest
Undergraduate Research Program Director and Staff Attendees, Executive Leadership Attendees

3. Building a First- and Second-Year Research Program at a Small Undergraduate Institution

<u>Irene Reizman</u>
Rose-Hulman Institute of Technology, Terre Haute, IN, USA

Irene Reizman

Brief Description
Mentored undergraduate research experiences offer a unique venue for students to collaborate closely with faculty members while also developing problem-solving skills. However, many students are unaware of research opportunities or unsure how to connect with faculty. We created a Research Fellows program to provide a pathway for involving more first- and second-year students in research at our small, STEM-focused undergraduate institution. Students enroll in courses that introduce the process of research, and they are matched with faculty mentors for a two-quarter research experience. This program also fosters a sense of community through events, speakers, and peer mentorship. In this presentation, I will discuss program recruitment, course development, learning outcomes, and initial assessment results. The lessons learned from this program can be applied at other small institutions interested in integrating undergraduate research early in the college experience.

Key Takeaways
- Describe a possible model for implementing a first- and second-year research program at a small undergraduate institution.
- List ideas for developing and facilitating multi-disciplinary "Introduction to Research" courses.
- Describe how collaboration between multiple stakeholders (Communications and Marketing, Admissions, faculty mentors) supports recruitment in first-year research programs.

Audience Interest
Faculty Attendees, Undergraduate Research Program Director and Staff Attendees, Executive Leadership Attendees, On-campus Stakeholder Attendees (e.g., Honors Colleges, scholarships, fellowships, libraries, etc.)

6/25/2024 | 3:30 PM - 4:30 PM, ET | Salon G
Track: Contributions to the Practice of Undergraduate Research
Presentation Type: Oral Presentations

1. Maximizing Effort While Maintaining Purpose: Randomized, Pooled Judging for Undergraduate Research Showcases

   <u>James Sadler</u>, Amy Childress
   Purdue University, West Lafayette, Indiana, USA

   James Sadler   **Amy Childress**

   Brief Description
   Coordinators of undergraduate research conferences seeking to simplify their judge assignments may be interested in how we successfully transitioned from discipline-specific judging to randomized, pooled judging. Formal evaluation of student presentations at undergraduate research showcases is ubiquitous for offices of undergraduate research, departments, and summer research programs. The Purdue University Office of Undergraduate Research developed a judge placement method that saves time for event coordinators, increases the rate of evaluations per presentation, and upholds the goals of the evaluation feedback process. Given the overall increasing number of undergraduate students participating in research and subsequent expansion of research showcases, it is important for event planners to continue streamlining and maximizing efforts with these large and high-visibility events.

   Key Takeaways
   - Develop a randomized, pooled judging process for their undergraduate research showcases.
   - Prepare discussion points from previously successful conversations with campus-wide constituents when traditional judging formats are valued by others.
   - Design event-based evaluation questions to determine the quality and effectiveness of the new judging process.

   Audience Interest
   Faculty Attendees, Undergraduate Research Program Director and Staff Attendees

   Additional Author(s)
   Craig Zywicki

2. Exploring Research via SciToons' Animated Video Series

   <u>Oludurotimi Adetunji</u>
   Brown University, Providence, RI, USA

   Brief Description
   Are you interested in facilitating undergraduate research? Have you considered how access to resources about important research topics can help advance undergraduate research at your

institution? This quest led to the production of three animated videos (SciToons) at Brown University. The first and second SciToons were focused on the questions of what is research and research ethics. These videos have been viewed over 338,000 and 70,000 times since published in 2020 and 2022 respectively on the SciToons' YouTube channel. The third video is on research equity. The author will present the process of making the videos and data on its impact. In addition, data will be presented on the effectiveness of the first video "What is research?" in changing students' attitudes about research at different Institutions of Higher Education, both in the continental United States and abroad.

Key Takeaways
- The three animated videos are publicly available on the SciToons' YouTube channel. After attending this session, the participants can access the videos.
- While I would not want to be prescriptive on how to engage with the videos, the videos can be used as tools for educating undergraduates about research.

Audience Interest
Faculty Attendees, Undergraduate Research Program Director and Staff Attendees, Executive Leadership Attendees, On-campus Stakeholder Attendees (e.g., Honors Colleges, scholarships, fellowships, libraries, etc.)

3. Leveraging International Ocean Discovery Program (IODP) Samples and Data Resources to Support Course-based Undergraduate Research Experiences (CUREs) in the Geosciences

Jeffrey Ryan
University of South Florida, Tampa, FL, USA

Brief Description
How does one sustain a CURE? This presentation highlights a successful example in the geosciences that leverages freely available samples and datasets for the ocean floor maintained by the International Ocean Discovery Program (IODP).

Key Takeaways
- Understanding the recovered materials and information resources that are freely available for educational use through the International Ocean Discovery Program.
- Grasp the design and strategy of this CURE as a year-over-year research effort and educational strategy.

Audience Interest
Faculty Attendees, On-campus Stakeholder Attendees (e.g., Honors Colleges, scholarships, fellowships, libraries, etc.)

Additional Author(s)
Antonio Luna

6/25/2024 | 4:45 PM – 6:15 PM, ET | Prefunction A
Poster Presentations with Reception

Poster 1: Building Better Accessibility into Research Forums

Track: Diversity, Equity, and Inclusion

<u>Heather Dover</u>, Korine Wawrzynski
Michigan State University, East Lansing, MI, USA

Brief Description
Whether visible, invisible, or temporary, some participants at an undergraduate research forum will need accommodations to engage in the undergraduate research forum. This presentation will outline the measures employed to expand accessibility at a large undergraduate research forum. Creating an event where all people can fully participate is one key to supporting student success and enhances engagement with the university community.

Key Takeaways
- Describe 3 accessibility measures to employ for research forums
- State 2 ways to increase accessibility at their research forum

Audience Interest
Undergraduate Research Program Director and Staff Attendees

Poster 2: Mainstreaming Development Ethics into Social Impact Projects

Track: Assessment, Accountability and Sustainability

<u>Benjamin Huffman</u>
University of Maryland, College Park, MD, USA

Benjamin Huffman

Brief Description
Mainstreaming Development Ethics into Social Impact Projects introduces an innovative approach to incorporating ethical considerations into social impact projects. Through a Development Ethics Toolkit, the student-centered Stream equips development practitioners and policymakers with essential tools to advance the Sustainable Development Goals ethically by considering the values of worthwhile development. Led by Assistant Clinical Professor Dr. Benjamin D Huffman, the Stream, Global Development and Design (GDD) within the Office of Undergraduate Research's First-Year Innovation & Research Experience (FIRE) has created a dynamic learning environment. The presentation focuses on experiential learning, global development, design thinking, and the integration of advanced technologies like generative AI and few-shot learning. Key components include exploring experiential learning methodologies, addressing challenges and opportunities in global development, and showcasing the work of

GDD's undergraduate research students in crafting effective and ethically sound solutions through human-centered design.

Key Takeaways
- Have a better understanding of development ethics and the values of worthwhile development
- Be able to identify opportunities within their own projects and programs for mainstreaming development ethics, and explore what ethical development around the world really means and needs.

Audience Interest
Faculty Attendees

Poster 3: Closing the Articulation Gap: Undergraduate Research & Career Readiness

Track: Contributions to the Practice of Undergraduate Research

Jeanne Mekolichick[1], Amanda MacDonald[2]
[1]Radford University, Radford, VA, USA. [2]Virginia Tech, Blacksburg, VA, USA

Jeanne Mekolichick   **Amanda MacDonald**

Brief Description
Built on a desire to close the articulation gap between the benefits of undergraduate research, scholarship and creative inquiry and the skills, knowledge and dispositions employers are seeking in new hires, this poster will present information and examples drawing from, and expanding on, the Council on Undergraduate Research (CUR) Position Paper, "Recognizing Undergraduate Research, Scholarship & Creative Inquiry as a Career-Readiness Tool". The goal is to assist faculty in leveraging this powerful inclusive pedagogical practice to best position all of our students for successful next steps.

Key Takeaways
Not applicable

Audience Interest
Faculty Attendees, Undergraduate Research Program Director and Staff Attendees, Executive Leadership Attendees

Poster 4: Demystifying Undergraduate Research: Evidence from a Pathways Program to Increase Research Accessibility

Track: Structures and Models for Building and Growing Undergraduate Research

Mathi Manavalan, Caroline Ostrand, Maya Rogers
University of Minnesota, Minneapolis, MN, USA

Brief Description
The hidden curriculum of research and academia can be particularly difficult to navigate for students from underrepresented backgrounds. We are excited to share a recently developed undergraduate research program at the University of Minnesota's Psychology Department. The dual-focus Pathways to Undergraduate Research Program aims to break the barriers to research by providing didactic opportunities for underrepresented and marginalized students. The program involves two components. The first is a 1-credit course in which students learn the basics of research. The second is a weekly discussion program for students that have just begun conducting research with faculty. These opportunities expose undergraduate students interested in research to career possibilities, the graduate school application process, current student perspectives, and direct mentorship and support.

Key Takeaways
Not applicable

Audience Interest
Faculty Attendees, Undergraduate Research Program Director and Staff Attendees, Executive Leadership Attendees

Additional Author(s)
Stephen Engel

Poster 5: Moving the Needle Using a Workshop Series to Increase Engagement in Undergraduate Research and Creative Scholarship

Track: Contributions to the Practice of Undergraduate Research

Sarah Humfeld
University of Missouri, Columbia, MO, USA

Sarah Humfeld

Brief Description
This presentation will summarize the increased workshop and presentation offerings provided by the Office of Undergraduate Research over the past four years. Our office delivers more than 30 online workshops each semester. The topics discussed have shifted slightly over the past two years as we work to meet the needs of various academic units and align with other campus initiatives and events. Collaborative workshops with the library, office of fellowships, graduate school and First Generation Initiatives are now being offered. We will highlight themes and practices that have proven to be highly successful for engaging students, new campus collaborations that have emerged over the past two years, the utilization of online systems to further the reach of the workshops, and preliminary data about students who engage with our workshop series.

Key Takeaways
Not applicable

Audience Interest
Faculty Attendees, Undergraduate Research Program Director and Staff Attendees, On-campus Stakeholder Attendees (e.g., Honors Colleges, scholarships, fellowships, libraries, etc.)

Poster 6: Sugar Day at Hiram College: A Case Study for the Implementation of a Successful, Institution-Wide Showcase and Celebration of Student Scholarship

Track: Structures and Models for Building and Growing Undergraduate Research

Steven Romberger
Hiram College, Hiram, OH, USA

Brief Description
In this work, we present a case study for the implementation of a successful, institution-wide showcase and celebration of student scholarship. A long-standing Hiram College tradition, Sugar Day was reinstituted after the COVID-19 pandemic to help build campus community and showcase student academics. Occurring late in the spring semester, the conference-inspired event has grown to become one of the most popular events on campus. During Sugar Day 2023, nearly 15% of the student body presented during one of 18 events representing 64% of Hiram's academic majors, as well as many other academic programs and College offices. In addition to early and sustained engagement with faculty, numerous college departments collaborate including the Office of Scholarly Endeavors, Marketing and Media Relations, Career and Community Engagement, Development and Alumni Relations, and Athletics. Eager collaboration and a willingness to accommodate academic freedom has been key to the success of Hiram College's Sugar Day.

Key Takeaways
Not applicable

Audience Interest
Undergraduate Research Program Director and Staff Attendees, Faculty Attendees

Poster 7: Recruiting and Supporting Interdisciplinary Undergraduate Research Teams

Track: Contributions to the Practice of Undergraduate Research

David Montez
Florida State University, Tallahassee, FL, USA

Brief Description
Interdisciplinary research is recognized as a means of addressing complex contemporary challenges and an opportunity to help stimulate innovation (Ledford, 2015). This poster presentation uses the example of Florida State University's International Genetically Engineered Machines (FSU iGEM) competition team to share best practices for recruiting and supporting interdisciplinary undergraduate research teams. It focuses on how to communicate project value to diverse student audiences, identify various project deliverables that facilitate skill development, and maintain student interest by focusing on local or regional research questions or problems. The iGEM research competition requires a number of deliverables beyond traditional biology lab work, including qualitative research with project stakeholders, the development of a project website, production of promotional and presentation videos, public education materials, and a business model canvas for how the team see their synthetic biology intervention coming to market. While these program requirements are unique, they are translatable for other research-focused contexts.

Key Takeaways
- Describe the benefits of undergraduate engagement in interdisciplinary researc
- Identify deliverables that would support an interdisciplinary team and be appropriate for institution projects or programs

Audience Interest
Undergraduate Research Program Director and Staff Attendees, Faculty Attendees

Poster 8: An Assessment of Career Readiness Following a Summer Undergraduate Research Experience - A Plan for Future Development

Track: Assessment, Accountability and Sustainability

Eric Hall
Elon University, Elon, NC, USA

Brief Description
This poster will discuss the ability of undergraduate research to help students become "career ready." This includes how undergraduate research can help them develop the 8 NACE competencies for career readiness. We will discuss how programming from the undergraduate research office can help develop these competencies during a summer research program which often includes professional development.

Key Takeaways
Not applicable

Audience Interest
Faculty Attendees, Undergraduate Research Program Director and Staff Attendees, On-campus Stakeholder Attendees (e.g., Honors Colleges, scholarships, fellowships, libraries, etc.)

Additional Author(s)
Brooke Buffington, CJ Fleming, and Paul Miller

Poster 9: Faculty Mentor Experiences with Novice Undergraduate Researchers

Track: Contributions to the Practice of Undergraduate Research

Audrey Lester
University of Missouri-Kansas City, Kansas City, MO, USA

Audrey Lester

Brief Description
An extensive body of literature on mentoring practices guides faculty and undergraduate research programs in offering relationship-rich research experiences to undergraduate students. As universities work to expand access to undergraduate research opportunities, faculty and undergraduate research programs should consider how mentoring practices might be adapted to

meet the needs of novice students. In a small exploratory study, we conducted in-depth structured interviews with faculty who mentored undergraduate research associates in positions funded by the Federal Work-Study Program. Four significant themes emerged from the interview data: definitions of novice, flexible approaches to mentoring, re-framing failure, and mentors' self-reflection. These themes could inform individual faculty members' approaches to mentoring novice undergraduate researchers. The results of the study may also lead to further investigation into how well-establishing mentoring practices can be adapted to meet the needs of unique student populations.

Key Takeaways
Not applicable

Audience Interest
Faculty Attendees, Undergraduate Research Program Director and Staff Attendees

Additional Author(s)
Jane Greer

Poster 10: Factors that Affect Student Career Clarity Through Early Undergraduate Research Participation

Track: Contributions to the Practice of Undergraduate Research

Alicia Batailles
Florida State University, Tallahassee, FL, USA

Alicia Batailles

Brief Description
This poster presentation will focus on understanding the practices of mentoring that support student career clarity through surveys from students in a structured undergraduate research program. The analysis revealed that aspects of mentorship were not highly correlated with outcomes of career clarity and interest in graduate school. However, students' personal characteristics, such as agency in learning, confidence unrelated to research, and general skills were more highly correlated with the two outcomes. More work must be done to understand the aspects of mentorship that support students' career clarity.

Key Takeaways
Not applicable

Audience Interest
Faculty Attendees, Undergraduate Research Program Director and Staff Attendees

Additional Author(s)
Sherry Southerland

Poster 11: Undergraduate Research and Creative Activities as an Equity Practice: Advising and Community-Centered Models to Overcome Barriers to Participation

Track: Diversity, Equity, and Inclusion

Liz Evans
University of Colorado Denver, Denver, CO, USA

Liz Evans

Brief Description
From the time when a student first steps foot on the CU Denver Campus, to their graduation, the Office of Undergraduate Research and Creative Activities is here to provide the information, support, and community to help our highly diverse students succeed in research and creative inquiry. This 18-minute presentation will outline the specific ways our programming includes fellowships, work-study-supported experiences, workshops, discussion groups, and individualized advising to provide all encompassing support to students and their faculty mentors. We will then describe how our office uses these resources to remove barriers to participation in undergraduate research and expand access across disciplines through our advising-centered approach and community-oriented programming.

Key Takeaways
- Understand how an advising-based model encourages individualized conversations about the impacts of undergraduate research and creative activities which are essential for student success
- Come away with ideas about how to develop cross-disciplinary community among undergraduate researchers and creative scholars
- Learn additional practices and resources that support the removal of barriers to participation in undergraduate research for those coming from historically excluded communities

Audience Interest
Undergraduate Research Program Director and Staff Attendees, On-campus Stakeholder Attendees (e.g., Honors Colleges, scholarships, fellowships, libraries, etc.)

Additional Author(s)
Erin Golden

Poster 12: Making Data Collection Count: Creating and Leveraging an Undergraduate Research Data Dashboard to Motivate Institutional Change

Track: Assessment, Accountability and Sustainability

Alison Hudson, Natalia Toro
University of Central Florida, Orlando, Florida, USA

Brief Description
The University of Central Florida has tracked key undergraduate research experiences since 2013 via a data dashboard. This presentation will discuss how UCF's Office of Undergraduate Research works with campus partners to update the dashboard and then how the office uses the results of the dashboard both to spot opportunities for improvement in our own programs and offerings (such as our Summer Undergraduate Research Fellowship) and gaps in coverage across the university. The speakers will share how they have leveraged data to alert departments to the impact of faculty departures and to galvanize departments to increase Directed Independent Research offerings.

Key Takeaways
- Understand and execute the processes needed to create and maintain a data dashboard
- Understand and strategize the cross-campus collaboration needed to create and maintain a data dashboard
- Evaluate and design strategies for using data to improve their own programs
- Evaluate and design strategies for using data to create institutional change

Audience Interest
Undergraduate Research Program Director and Staff Attendees, On-campus Stakeholder Attendees (e.g., Honors Colleges, scholarships, fellowships, libraries, etc.), Executive Leadership Attendees, Faculty Attendees

Poster 13: Promoting Undergraduate Research for the Life Sciences Community: The CUR Biology Division

Track: Structures and Models for Building and Growing Undergraduate Research

Susan Safford[1], Susan Klinedinst[2], Michael Wolyniak[3]
[1]Lincoln University, Lincoln University, Pennsylvania, USA. [2]Schreiner Unievrsity, Kerville, Texas, USA. [3]Hampden-Sydney College, Hampden-Sydney, Virginia, USA

Susan Safford   **Susan Klinedinst**   **Michael Wolyniak**

Brief Description
This presentation details the current work of the Council on Undergraduate Research Biology Division in facilitating the spread of best undergraduate research practices to the life science community. These projects include active award programs to assist students in being able to purchase supplies for research projects and travel to professional meetings to disseminate their research, a professional development program for the integration of course-based undergraduate research experiences (CUREs) into the undergraduate classroom, a recognition program for outstanding research mentors, and an outreach initiative for maximizing the spread of Division work to as wide of an audience as possible.

Key Takeaways
- Define the activities of the CUR Biology Division.
- Understand how to get involved with CUR Biology Division initiatives.

Audience Interest
Faculty Attendees, Undergraduate Research Program Director and Staff Attendees, Executive Leadership Attendees, On-campus Stakeholder Attendees (e.g., Honors Colleges, scholarships, fellowships, libraries, etc.)

Additional Author(s)
Lance Barton, Joyce Fernandes, Karen Lee, and Elizabeth Sandquist

Poster 14: Course-based Undergraduate Research Experiences: Can Students be Allergic to the CURE?

Track: Contributions to the Practice of Undergraduate Research

John Willison
University of Adelaide, Adelaide, South Australia, Australia

Brief Description
During rapid shifts in education due to Artificial Intelligence, teacher professional judgement and responsiveness to change is paramount. However, there is a tension in Initial Teacher Education to develop both the capacity for teacher professional judgement and for use of best practice approaches identified through randomized control-based research and systematic literature reviews. This presentation explains our action research (AR) methodology, over a three-year period, to improve a course intended to enable this capacity building. As part of the teaching team's AR, we piloted in 2021 a pre-post questionnaire that enabled students to self-assess their classroom-oriented research skills and made adjustments to the course in light of the preliminary data. We identified a number of problematic areas, made adjustments we could and then employed the pre-and post- questionnaire in the 2022 and 2023 offering of the course, with the results, analysis and implications included in this presentation.

Key Takeaways
- Adapt the evaluation strategy to other CUREs
- Determine contexts in which 'research' is the most appropriate term for sophisticated learning in undergraduate programs

Audience Interest
Faculty Attendees, Undergraduate Research Program Director and Staff Attendees

Poster 15: Using the Medieval Guild Model to Structure Undergraduate Research Programs

Track: Structures and Models for Building and Growing Undergraduate Research

David Salomon
Christopher Newport University, Newport News, VA, USA

David Salomon

Brief Description
The programs in Christopher Newport University's Office of Student Research and Creative Activity are modeled on the medieval guild, a precursor to the modern-day union. The Office's three main programs are arranged at the Apprentice level (Research Apprentice), Journeyman/Journeywoman level (Summer Scholars, and Master level (Independent Research Grants). This poster outlines the structure of these programs, how they interact, and the successes they have reaped in recruiting students.

Key Takeaways
- Define, design, and execute successful research programs based on a medieval guild model.

Audience Interest
Undergraduate Research Program Director and Staff Attendees, On-campus Stakeholder Attendees (e.g., Honors Colleges, scholarships, fellowships, libraries, etc.)

Poster 16: Assessment of an Undergraduate Research Pipeline at Carnegie Mellon University

Track: Assessment, Accountability and Sustainability

Alex Johnson
Carnegie Mellon University, Pittsburgh, PA, USA

Brief Description
Using assessment data from undergraduate research (UR) programming at Carnegie Mellon University (CMU), we evaluate skill development and learning outcomes of students who participated in a scaffolded undergraduate research "pipeline" consisting of entry level and advanced programming. Data include student responses regarding self-efficacy and confidence in research skills, as well as performance on authentic tasks.

The Office of Undergraduate Research and Scholar Development at CMU administers both UR programming and fellowships and scholarships advising. We consider fellowships and scholarships applications an extension of the UR pipeline, and will share data about students who subsequently applied for a competitive fellowship or scholarship.

Our identification of a UR pipeline that includes fellowships and scholarships outcomes offers a framework of assessment for UR administrators at similar institutions, especially those in joint UR-fellowships offices. Though most UR assessments only consider one program at a time, examining the research pipeline holistically can offer valuable insights.

Key Takeaways
Not applicable

Audience Interest
On-campus Stakeholder Attendees (e.g., Honors Colleges, scholarships, fellowships, libraries, etc.), Undergraduate Research Program Director and Staff Attendees

Additional Author(s)
Richelle Bernazzoli and Paige Zalman

Poster 17: Research Readiness Course: Where Does the Pathway to Undergraduate Research Start?

Track: Structures and Models for Building and Growing Undergraduate Research

Jay Bethea
Rice University, Houston, TX, USA

Brief Description
Undergraduate students entering research for the first time often face uncertainty finding opportunities and starting meaningful experiences. How do we unpack the student struggle of not knowing how to get started, not feeling ready, and having difficulty finding mentor connections in an accessible way? This poster presentation will highlight an example of how a "research readiness" course was structured to address the barriers students face trying to get started in undergraduate research.

Key Takeaways
Not applicable

Audience Interest
Undergraduate Research Program Director and Staff Attendees

Poster 18: Character Building in Undergraduate Researchers: A Study Outcome of Research Methods

Track: Assessment, Accountability and Sustainability

Sophia Mun
California Baptist University, Riverside, CA, USA

Brief Description
This mixed-methods study investigates the advancements in undergraduate research (UR) experiences, mainly cultivating character strengths through active engagement in UR. The study involved surveying a cohort of undergraduate students (N=31) enrolled in the final course of a four-course sequence in research methodology within the Social Sciences. Quantitative data collection involved administering a survey designed to assess the benefits students derive from participating in undergraduate research (UR). Notably, favorable ratings, defined as values surpassing 3.00, were obtained for both the research experiences and skills and the gains in character attributes, including Humility, Courage, Industriousness, Responsibility, Creativity, Honesty, Tolerance for Obstacles, Patience, and Caring. The qualitative data revealed personal character growth among students, highlighting advancements in humility, creativity, honesty, tolerance for obstacles, and patience. These findings imply that students not only acquire valuable research experiences and skills but also undergo meaningful character development through their participation in UR.

Key Takeaways
- Identify the impact of undergraduate research (UR) experiences on students' research skills and character development.
- Recognize particular character traits that students can enhance through their involvement in undergraduate research (UR).

Audience Interest
Faculty Attendees, Undergraduate Research Program Director and Staff Attendees

Poster 19: Exploring Forms of Communication within Professional Organizations: Member Preferences in Education

Track: Advocacy and Partnerships/Collaboration and Community

Suzanne Lindt
Midwestern State University, Wichita Falls, TX, USA

Suzanne Lindt

Brief Description
As large professional organizations seek to adapt to an ever-changing society, the need to adapt information should also change. To involve members of a professional organization, one should best understand the preferences of its members. The purpose of the current research project is to better understand the preferences of members of the Council for Undergraduate Research (CUR)'s Education Division to receive information. With technology and following the COVID-19 pandemic, many faculty feel overwhelmed. Though they may have the desire to obtain information and professional development from the division, their preferences to receive such information may have changed. Through analysis of various organizations' methods to reach members and a survey of current CUR education members, the researchers will share results of division members' preferences for receiving information related to undergraduate research and their plan for engaging members in the future.

Key Takeaways
- Attendees will understand how most professional organizations disseminate information to members.
- Attendees will understand how members of professional organizations prefer to receive information.
- Attendees will understand how generational differences in members of professional organizations relate to members' preferences in receiving information.

Audience Interest
Faculty Attendees, Undergraduate Research Program Director and Staff Attendees, Executive Leadership Attendees

Poster 20: Assembling a Puzzle: Developing Research Credentials for Students through Diverse

Track: Structures and Models for Building and Growing Undergraduate Research **Programming**

Sarah Powell, Lance Barton
UNC Charlotte, Charlotte, NC, USA

Brief Description
Take a tour of the varied programming options available to UNC Charlotte undergraduates offered by the Office of Undergraduate Research (OUR). Discuss with OUR representatives the

various program options and pathways to success for undergraduates to credential themselves for diverse careers through undergraduate research experiences.

Key Takeaways
- Consider pathways to undergraduate research on their campus.
- Design credentialing pathways for undergraduate research.

Audience Interest
Faculty Attendees, Undergraduate Research Program Director and Staff Attendees, Executive Leadership Attendees

Poster 21: Expanding the Undergraduate Research Experience: Moving from Individual Projects to Group Collaboration

Track: Contributions to the Practice of Undergraduate Research

Sandra Buerger, Robin Hulbert
Boston University, College of General Studies, Boston, MA, USA

Brief Description
It can be challenging to work with a large number of undergraduate research students while ensuring that the students are getting a meaningful experience. As our undergraduate research program has grown, we have begun using a collaborative approach to maximize the impact of the experience. Instead of having each student work on an individual project, approximately 6 students work on the same project throughout the semester. This encourages peer-to-peer learning, and students become more independent in the lab with less day-to-day reliance on faculty. In addition, this approach results in larger data sets, leading to more robust data overall.

Key Takeaways
Not applicable

Audience Interest
Faculty Attendees, Undergraduate Research Program Director and Staff Attendees

Poster 22: Development of an International Research Program and the Student Experience

Track: Structures and Models for Building and Growing Undergraduate Research

Jenna Molen
University of Florida, Gainesville, FL, USA

Brief Description
Get students thinking globally about research! In 2018, The University of Florida developed a summer program for students with research experience to take their skills abroad. The program application is proposal-based which allows the students to customize their research experience abroad. Students find a researcher who agrees to mentor them, develop a project proposal, and itemize a travel budget. While abroad, students are required to develop and maintain an e-portfolio and attend weekly virtual meetings as a group. Program development, implementation, and student feedback will be presented.

Key Takeaways
Not applicable

Audience Interest
Undergraduate Research Program Director and Staff Attendees, On-campus Stakeholder Attendees (e.g., Honors Colleges, scholarships, fellowships, libraries, etc.)

Additional Author(s)
Anne Donnelly

Poster 23: Supporting and Documenting Student Growth during Undergraduate Research Experiences: the EvaluateUR Method

Track: Assessment, Accountability and Sustainability

Sean Fox
Carleton College

Brief Description
We have developed a method which supports and documents student growth during UR experiences. Known as the EvaluateUR method, its variants have been developed for different educational settings and are intended to be integrated directly into UR experiences including independent research, CUREs, and collegiate competitions. The method's design engages students in periodic reflections about their experiences to promote metacognition. Thus, the method serves as a learning tool for students, helping them become more aware of their academic and professional strengths and weaknesses. The data obtained by the method can be used to document the impact of UR opportunities and benefits derived from investing in undergraduate research opportunities.

Key Takeaways
Not applicable

Audience Interest
Undergraduate Research Program Director and Staff Attendees, Faculty Attendees

Additional Author(s)
Jill Singer

Poster 24: The AR-SURGE Network: Building a Statewide Network to Increase Visibility and Support for Undergraduate Research Across the State of Arkansas

Track: Advocacy and Partnerships/Collaboration and Community

Michael Moore[1], Kari Harris[2]
[1]University of Arkansas at Little Rock, Little Rock, AR, USA. [2]Arkansas State University, Jonesboro, AR, USA

Michael Moore

Kari Harris

Brief Description
Come and learn how we are building a statewide undergraduate research network that fosters intrastate collaborations to improve and increase the visibility of and support for undergraduate research across the state of Arkansas.

Key Takeaways
Not applicable

Audience Interest
Undergraduate Research Program Director and Staff Attendees, Faculty Attendees

Poster 25: Making Space for the Deliberate Study, Practice, and Inquiry of [Volunteer] Leadership in Undergraduate Research for Evolving Environments

Track: Structures and Models for Building and Growing Undergraduate Research

Ruth Palmer[1], Lindsay Currie[2]
[1]The College of New Jersey, Ewing, NJ, USA. [2]CUR, Maryland, USA

Brief Description
This presentation continues our continuing collaborative investigation into mentored undergraduate research plus professional development efforts related to leadership in undergraduate research, with a focus on volunteer leadership. Its primary goal is to engage conference participants in a strategic conversation about such leadership in Undergraduate Research for selective evolving environments and its implications for future practice. The workshop structure serves to facilitate vigorous engagement and attendees' becoming informed participants, co-contributors to the development of this project, and co-creators of CUR's future. Further, membership so informed, inspired, and practiced has the potential to re-imagine novel structures and models to cultivate volunteer Leadership in Undergraduate Research, which, in turn, supports and elevates undergraduate research within CUR's organizational framework.

Key Takeaways
- Reinforce their understanding of evolving organizational environments, the complexity engendered, and the challenge of studying, practicing, and investigating volunteer leadership in undergraduate research, i.e., its meaning in context, implications for volunteer organizations, and their societal impact.
- Apply this understanding to confronting complexity courageously wherever it shows up using the research process plus sophisticated research thinking, alongside other tested change strategies and methodologies
- Volunteer as allies and collaborators with the presenters to continue with confidence and commitment to the next phases of the project and CUR's future.

Audience Interest
Faculty Attendees, Undergraduate Research Program Director and Staff Attendees, Executive Leadership Attendees, On-campus Stakeholder Attendees (e.g., Honors Colleges, scholarships, fellowships, libraries, etc.)

Poster 26: A Collaborative Fellowship Model for Promoting Globally-Minded Undergraduate Research

Track: Advocacy and Partnerships/Collaboration and Community

Cary Wall, Latika Young
Florida State University, Tallahassee, FL, USA

Cary Wall

Latika Young

Brief Description
Florida State University has partnered with the Tyler Center for Global Studies to extend access to international research opportunities for undergraduates through an emergent fellowship model. Join us as we evaluate and expand the work of the Tyler Center, empowering a new generation of global leaders through impactful scholarship.

This poster presentation will spotlight the Tyler Center for Global Studies by elaborating on our organizational structure, preliminary impacts, and next steps. We shed light on the benefits of institutional collaboration for promoting international research opportunities and fostering diversity in the undergraduate research arena. We also detail the future of the project, as the Tyler Center is launching a more robust Fellowship program this year, aiming to reach students who would not otherwise have support for their goals of global inquiry.

Key Takeaways
Not applicable

Audience Interest
Undergraduate Research Program Director and Staff Attendees, On-campus Stakeholder Attendees (e.g., Honors Colleges, scholarships, fellowships, libraries, etc.), Faculty Attendees, Executive Leadership Attendees

Poster 27: Using Data to Identify and Address Inequity in Undergraduate Research

Track: Assessment, Accountability and Sustainability

Abigail Schuh
Rice University, Houston, Texas, USA

Abigail Schuh

Brief Description
At Rice University, the Office of Undergraduate Research and Inquiry (OURI) uses an annual survey to collect information on the undergraduate research experience, student access, barriers to entry, and research outcomes. Survey findings have suggested that a student's identity effects many elements related to the research experience. OURI has used findings from this survey to address issues of inequity and guide programmatic needs.

Key Takeaways
- Design a survey to assess research participation, overall experience, barriers to entry, and outcomes.

- Define identities who may be experience different barriers to entry or outcomes during the undergraduate research experience.
- Organized programs or interventions that address inequity in access and experience in undergraduate research.

Audience Interest
Undergraduate Research Program Director and Staff Attendees

Poster 28: Implementation of a Blind Review Process: Providing Entry-Level Research Opportunities to Students with Entry-Level Experience

Track: Structures and Models for Building and Growing Undergraduate Research

Cheyenne Carpenter
Northern Arizona University, Flagstaff, AZ, USA

Brief Description
How can students without the social capital, networks, or experience get involved in research as an undergraduate? Unfortunately, the lack of those resources can limit opportunities for a student who wants to break into research. Northern Arizona University is exploring avenues, like a blind review process in the recruitment of research interns, that seeks to grow the numbers of new students engaging in research. Is a blind review recruitment process the change that is needed to encourage students with less experience but just as much potential to apply for that entry-level research position?

Key Takeaways
After attending this session, the audience should be able to describe a blind review process and determine the impacts it has on hired research interns - specifically the diversity demographically as well as experience levels of students hired.

Audience Interest
Faculty Attendees, Undergraduate Research Program Director and Staff Attendees

Poster 29: Empowering First- and Second-Year Students as Emerging Researchers

Track: Structures and Models for Building and Growing Undergraduate Research

Kate Hanson, Odette Rodriguez
Syracuse University, Syracuse, NY, USA

Brief Description
Responding to the need for short-term, low-stakes research experiences to introduce the concept of research to early-stage students, the Syracuse Office of Undergraduate Research & Creative Engagement (SOURCE) ran a pilot of a new program, "SOURCE Explore" in spring 2024. SOURCE Explore allows students to develop research skills, engage with campus resources, and gain confidence in themselves.

In developing SOURCE Explore, our office established new modes of collaboration with campus partners, filled a gap in student research development, and increased participation in arts, humanities, and social science research. Our poster will share not only the accomplishments of SOURCE Explore but insight into its creation, including outreach to potential collaborators, drafting of program goals, and recruitment of student participants. By "doing" real research activities, rather than being "talked to" about research, students will both build key foundational skills and identify concrete next steps to engage in research earlier.

Key Takeaways
Not applicable

Audience Interest
Faculty Attendees, Undergraduate Research Program Director and Staff Attendees

Poster 30: Retaining New Freshmen: The Power of Second Semester Course Based Undergraduate Research Experiences (CUREs)

Track: Contributions to the Practice of Undergraduate Research

Joe Wirgau, Abbi Green
Radford University, Radford, VA, USA

Brief Description
As it becomes increasingly expensive to pursue higher education, many students and families are questioning the value of a college degree. To counteract the rising costs of higher education, universities have an even greater obligation to retain students from all backgrounds and provide them with skills that prepare them to enter and be successful in the workforce. Undergraduate research has been shown to benefit students by developing workforce readiness skills, and a scalable way of providing these experiences is through integration into the curriculum. In this study, we examined the positive impact of Course-Based Undergraduate Research Experiences (CUREs) on first-year student retention rates at a mid-sized public university.

Key Takeaways
Not applicable

Audience Interest
Faculty Attendees, Executive Leadership Attendees, Undergraduate Research Program Director and Staff Attendees

6/26/2024 | 8:00 AM-3:00 PM, ET | Prefunction A
General Registration Check-in

6/26/2024 | 8:00 AM-9:00 AM, ET | Prefunction A
Breakfast

6/26/2024 | 9:00 AM-10:15 AM, ET | Calvert Ballroom
Welcome and Introduction

Bethany Usher
CUR Immediate Past-President

Working Plenary

The Characteristics of Excellence in Undergraduate Research (COEUR) is based on the considerable experience of CUR members who have engaged undergraduate students in research, developed undergraduate research programs, mentored new faculty to include undergraduate research in their teaching repertoire, and advised higher education institutions in the development of undergraduate research programs. The instrument presents the best practices in undergraduate research and can serve as a guide for institutions striving to establish or enhance the learning experiences of students through research. Facilitators will provide a brief overview of what has changed in the newly released version and provide some guidance/structure for people to work through the COEUR self-assessment process.

6/26/2024 | 10:30 AM - 11:30 AM, ET | Salon C
Track: Structures and Models for Building and Growing Undergraduate Research
Presentation Type: Workshop

Building the Mentor-ship While Sailing the Seas of Research

Laura Schoenle
Cornell University, Ithaca, NY, USA

Laura Schoenle

Brief Description
At research-intensive universities, STEM faculty need to be more than mentors, they must build the mentor-ship; a crew of researchers, including multiple mentor-mentee dyads, that work together to produce impactful, high quality science. Yet, faculty are not trained to build the ship or captain this crew. This approach can lead to vast differences in the mentoring quality of lab members, particularly undergraduates mentored by graduate students and postdocs. In this workshop, participants explore how researchers can use leadership strategies to proactively shape the experiences of all lab members and intentionally steer toward a successful research group culture by using values as a guiding "North Star." Participants will conduct a values assessment and identify how to enact these values in a research group through evidence-based mentoring practices. Participants will set sail with the ultimate treasure: the resources and knowledge to offer their own workshop upon returning to their home port.

Key Takeaways
- Identify and define the values of a research group.
- Design policies and practices for a research group that promote mentorship in concert with other values.
- Create a workshop on "cultivating a value-based research culture in the lab" for faculty at their institution.

Audience Interest
Faculty Attendees, Undergraduate Research Program Director and Staff Attendees, Executive Leadership Attendees, On-campus Stakeholder Attendees (e.g., Honors Colleges, scholarships, fellowships, libraries, etc.)

Additional Author(s)
Jennifer Brousseau, Caleb O'Brien, and Amber Wendler

6/26/2024 | 10:30 AM - 11:30 AM, ET | Salon D
Track: Contributions to the Practice of Undergraduate Research
Presentation Type: Workshop

Great Expectations: Towards Understanding the Diverse Landscape of Current Institutional Expectations of Mentors Engaging Undergraduates in Research

Joseph Reczek
Denison University, Granville, OH, USA

Brief Description
To be announced

Key Takeaways
- Leave with a deeper sense of the significant diversity of expectations and resources for engaging undergraduates in research across and within institutional types.
- Identify commonalities and critically examine differences to better understand the evolving landscape of undergraduate research opportunities and resources.

Audience Interest
Faculty Attendees, Undergraduate Research Program Director and Staff Attendees

6/26/2024 | 10:30 AM - 11:30 AM, ET | Salon E
Track: Structures and Models for Building and Growing Undergraduate Research
Presentation Type: Panel Discussion

Engaging Early (and Often): Undergraduate Research Program Models for Early Career Students at Three Large Public Universities

Keri Swaby[1], Meredith Malburne-Wade[2], Klebert Feitosa[3]
[1]Virginia Tech, Blacksburg, VA, USA. [2]University of Tennessee- Knoxville, Knoxville, TN, USA.
[3]James Madison University, Harrisonburg, VA, USA

Brief Description
We know that as a high-impact educational practice, undergraduate research is important, and studies clearly support the impact of engaging undergraduates as early as possible.   Determining how to best implement programming at colleges and universities, particularly R1 and R2 institutions, is an ongoing and timely question, however. In this session, we present three different but related early career research programs- the FYRE Program at James Madison University (JMU), the First Year FURF program at Virginia Tech, and the Departmental Research Assistants (DRA) program at University of Tennessee, Knoxville. These programs were designed to introduce beginning students in all fields to paid and mentored undergraduate research with a faculty member. We will share practical information about implementation, funding and student payment considerations, preliminary assessment, and lessons learned within the context of a large public institution, to inform others seeking to introduce early undergraduate research on their campuses.

Key Takeaways
- Identify the limitations and concerns related to launching early-career undergraduate research program.
- Identify best practices for launching undergraduate research programs focused on freshmen and sophomores.
- Conceptualize an early career research program at their own institution.

Audience Interest
Undergraduate Research Program Director and Staff Attendees, On-campus Stakeholder Attendees (e.g., Honors Colleges, scholarships, fellowships, libraries, etc.)

6/26/2024 | 10:30 AM - 11:30 AM, ET | Salon F
Track: Structures and Models for Building and Growing Undergraduate Research
Presentation Type: Oral Presentations

1. A Decade of Data: Analyzing Student and Learning Impacts of Binghamton University's First-year Research Immersion Program

   Megan Fegley, Louis Glickman, Caitlin Light
   Binghamton University, State University of New York, Binghamton, NY, USA

   Brief Description
   The First-year Research Immersion (FRI) program, a sequence of 3 course-based undergraduate research experiences (CUREs) was implemented with goals of increasing student persistence in STEM and improving students' ability to meet STEM workforce challenges. Each year, 350 first-year students join 1 of 11 FRI research streams, building discipline-content expertise, developing workforce skills, and conducting authentic research. This presentation will focus on the effect of FRI participation on student outcomes and perceived learning gains using survey and university data collected over the first 10 years of implementation from the more than 1,700 FRI program graduates. Aligned with our program goals, our data show that FRI student 4-year graduation rates (88%) are exceeding university goals (75%) and national STEM major completion rates (96% FRI, 52% nationally). In addition, large numbers of FRI students conduct post-FRI research, act as FRI peer mentors and disseminate their research externally.

   Key Takeaways
   - Articulate student outcomes for a CURE sequence.
   - Apply concepts and structures from Binghamton University's First-year Research Immersion (FRI) program to existing or planned research programs at their own institution.

   Audience Interest
   Faculty Attendees, Undergraduate Research Program Director and Staff Attendees, Executive Leadership Attendees, On-campus Stakeholder Attendees (e.g., Honors Colleges, scholarships, fellowships, libraries, etc.)

2. "I Know I Can Actually Do It Now": An Analysis of Pathway to Research Student Participant Reflections

   Korine Wawrzynski
   Michigan State University, East Lansing, Michigan, USA

   Brief Description
   The Pathway to Research program (PTR) is a peer- and staff-led program intended to help MSU undergraduate students engage in mentored research or creative experiences. PTR provides group and individual advising, workshops, peer mentoring, and personal accountability with the goal of helping students find mentored research/creative experiences.

   MSU ran five cohorts of the Pathway to Research Program. The 3-week program helped 71% of participants secure research positions. More than 50% of these participants were from historically excluded or minoritized backgrounds and 40% were first generation students. Analysis of participants produced five key themes about the program experience: 1) guidance by peer advisors, 2) research was made accessible, 3) exploration of interests and possibilities, 4) developed professional skills, and 5) feeling more capable and confident. This session will outline

key aspects of the Pathway to Research Program and detail the analysis of participants' reflections around these five themes.

Key Takeaways
- Understand the general format and structure of the Pathway to Research Program
- Describe the overarching impacts of the Pathway to Research Program as described by student participants.

Audience Interest
Faculty Attendees, Undergraduate Research Program Director and Staff Attendees, Executive Leadership Attendees, On-campus Stakeholder Attendees (e.g., Honors Colleges, scholarships, fellowships, libraries, etc.)

Additional Author(s)
Jillian Volpe White

3. Authentic Research and Collaborative Learning: Affordances and Challenges of Implementing a Novel Undergraduate Research Experience that Promotes Access, Inclusion and Belonging in Polar Science.

Kimberley Preston[1], Sophie Pierszalowski[2]
[1]Oregon State University, Corvallis, Oregon, USA. [2]University of Washington, Seattle, Washington, USA

Brief Description
Undergraduate research experiences (UREs) can have high impact on participants, but there may be barriers to participation that leave students underrepresented in STEM without access to research opportunities. This presentation describes intentional design decisions and findings from the implementation of a novel URE called 'Authentic Research and Collaborative Learning' (ARC-Learn). ARC-Learn aims to 1) support underrepresented and non-traditional students in a Polar science research community, cultivate a sense of belonging in STEM, and build technical science skills, through inclusive design features (e.g., curriculum-integration, wrap-around support for students and mentors, long-duration, absence of field work, and team-based research) and 2) understand the gains and challenges with the chosen design features and structures. The presentation reports on findings related to trade-offs of ARC-Learn design principles based on mentor and student feedback and reports on college-level considerations implementing a program like ARC-Learn.

Key Takeaways
- Describe structural features ARC-Learn that appear most promising from the student, mentor, and college administrator perspectives
- Articulate trade-offs in implementing a highly-flexible, long-term, low-intensity URE.

Audience Interest
Faculty Attendees, Undergraduate Research Program Director and Staff Attendees, Executive Leadership Attendees

Additional Author(s)
Julie Risien and Ryan Brown

6/26/2024 | 10:30 AM - 11:30 AM, ET | Salon G
Track: Diversity, Equity, and Inclusion
Presentation Type: Oral Presentations

1. Empowering Tomorrow's Scholars: Critical Race Theory in Institutionalization Efforts to Increase Research Capacity for Undergraduate Students

    Gabriela Chavira
    California State University Northridge, Northridge, USA

    Gabriela Chavira

    Brief Description
    Discover the transformative journey of California State University Northridge (CSUN) in advancing undergraduate research over the last decade. Beginning with a BUILD grant in 2014, this case study highlights how Critical Race Theory (CRT) was used to empower students from underrepresented groups in STEM fields. Results show BUILD students achieving higher engagement and success in science careers. Building on this, the NSF-funded ESTUDIO program, a research training hub, was established in the Office of Undergraduate Research (OUR). ESTUDIO aims to reshape CSUN's approach to research High-Impact Practices (HIPs). The presentation explores the creation of undergraduate training modules using CRT, the institutionalization efforts, including transforming these modules into certificate programs, and adopting flexible learning modalities. This session offers insights into the challenges and triumphs of fostering an inclusive research environment, significantly impacting STEM education at CSUN.

    Key Takeaways
    *   Increase their knowledge of Critical Race Theory in UR: A CRT-based, inclusive research training program helps underrepresented and well-served students excel in STEM fields, resulting in increased engagement and success.
    *   Be introduced to ESTUDIO - an accessible and inclusive UR program: Building on prior successes, we have launched ESTUDIO, a campus-wide research training hub focused on inclusivity and diversity in STEM, under the Office of Undergraduate Research (OUR). Finding a one-size-fits-all model is challenging for large, comprehensive campuses such as CSUN.
    *   Gain knowledge on Institutional Transformation: CSUN is transforming its approach to STEM education by expanding training into certificate programs and adopting flexible learning methods like online and adaptive modalities, aiming to make research more accessible and inclusive.

    Audience Interest
    Faculty Attendees, Undergraduate Research Program Director and Staff Attendees, Executive Leadership Attendees

    Additional Author(s)
    Crist Khachikian and Melanie Bocanegra

2. Expanding the Tent: How Tailored Programs Can Successfully Engage Those Traditionally Left Out of Early Career Undergraduate Research and Creative Activity

   Christopher Josey
   University of Missouri, Columbia, MO, USA

   Brief Description
   Research demonstrates that marginalized and early career students are underrepresented in programs of undergraduate research and creative activities. Further, this trend is particularly evident within the Social Sciences, Arts, and Humanities. Finally, faculty often struggle with the recruitment and mentorship of students from this swath of campus. In this presentation, we detail efforts taken at a large Midwestern University to remedy these concerns. We describe a suite of programs we created to increase participation from faculty and students from these backgrounds. Further we describe benefits of these programs as evidenced by data we collected at the at the start and conclusions of year one of these programs. Attendees of this talk will learn how to design similar programs in an affordable and effective manner at their own institution.

   Key Takeaways
   - Design programming that engages early career students in undergraduate research and creative activity.
   - Identify and support faculty mentors of underserved undergraduate students.
   - Frame barriers to participation in undergraduate research by faculty and students to better justify the need for targeted programming.

   Audience Interest
   Faculty Attendees, Undergraduate Research Program Director and Staff Attendees, Executive Leadership Attendees

   Additional Author(s)
   Nicole Campione-Barr

3. The CONNECT Network: Mentoring Undergraduate BIPOC Women as Biosciences Entrepreneurs

   Katherine Campbell
   St. Catherine University, St. Paul, MN, USA

   Brief Description
   The Community of Neighboring and National Entrepreneurial Centers and Trainees (CONNECT) network is an NSF-funded initiative empowering undergraduate biology educators to increase entrepreneurial opportunities and training for BIPOC women. This session will review preliminary data and a faculty-led SWOT analysis and prompt discussion among attendees about future implementation of inclusive curricula and research opportunities within undergraduate biosciences entrepreneurship. We strongly encourage faculty to join the CONNECT network and start mentor-student hubs at their universities.

   Key Takeaways
   - Describe initial network findings around needs of diverse students in biosciences entrepreneurship
   - Identify challenges to incorporating entrepreneurial education into undergraduate biology curricula and research programs.

Audience Interest
Faculty Attendees, Undergraduate Research Program Director and Staff Attendees, On-campus Stakeholder Attendees (e.g., Honors Colleges, scholarships, fellowships, libraries, etc.), Executive Leadership Attendees

Additional Author(s)
Rahul Roy and Maarten Rotman

6/26/2024 | 11:30 PM - 12:30 PM, ET | Calvert Ballroom
Lunch and Plenary (Note: Plenary will begin at 11:45 AM)

Welcome and Introduction

Maria Iacullo-Bird
CUR President

Plenary

HUMANITIES DISCIPLINES AND UNDERGRADUATE RESEARCH
with Beatrice Gurwitz

Wednesday, June 26 at 11:45 AM - 12:30 PM ET

Beatrice Gurwitz, Deputy Director at the National Humanities Alliance, will moderate a panel of executive directors of three disciplinary associations in the humanities as they talk about successful initiatives in their fields for encouraging humanities faculty members–traditionally research loners–to work with undergraduates. The panel will talk about community-engaged scholarship, archival work, and a whole range of approaches to research that engage humanities students and faculty members. Panelists include Amy Ferrer, Executive Director of the American Philosophical Association; James Grossman, Executive Director of the American Historical Association; and Paula M. Krebs, Executive Director of the Modern Language Association.

6/26/2024 | 12:30 PM - 1:30 PM, ET | Salon C
Track: Structures and Models for Building and Growing Undergraduate Research
Presentation Type: Workshop

ProCUREing Solutions: Proposing Course-based Undergraduate Research Experiences

Amy Childress, Stephanie Gardner, Craig Zywicki
Purdue University, West Lafayette, IN, USA

Brief Description
Have you tried to develop CUREs at a larger scale but struggle to leverage local resources or gain administrative support? Join us for this workshop as we walk you through the design and development of the CURE – Purdue institutional program from three perspectives: professional development, assessment/evaluation, and administration. We will engage in conversation and activities to help you reflect upon and strategize an approach fit for your own local context and needs.

CURE – Purdue is a faculty/instructor professional development program that enables participants to design and implement Course-based Undergraduate Research Experiences (CUREs). CUREs are a valuable tool for faculty to incorporate their own research (strengthening the research-teaching connection) as well as increasing access for undergraduates to this engaging form of instruction and research skill development. This year-long program combines a two-day training workshop, summer development team, peer mentor consultation, and an academic-year community of practice.

Key Takeaways
- Learn about the CURE – Purdue model for faculty professional development.
- Outline a strategy for similar program development and adoption.

Audience Interest
Faculty Attendees, Undergraduate Research Program Director and Staff Attendees, Executive Leadership Attendees, On-campus Stakeholder Attendees (e.g., Honors Colleges, scholarships, fellowships, libraries, etc.)

6/26/2024 | 12:30 PM - 1:30 PM, ET | Salon D
Track: Diversity, Equity, and Inclusion
Presentation Type: Panel Discussion

You Belong Here: Creating Inclusive Undergraduate Research Opportunities

Guadalupe Carmona[1] , Wynetta Lee[2], Jacqueline Brooks[3], Alysia Roehrig[4]
[1]University of Texas at San Antonio, San Antonio, TX, USA [2]North Carolina Central University, Durham, NC, USA. [3]California State University, Sacramento, CA, USA. [4]Florida State University, Tallahassee, FL, USA.

Wynetta Lee   **Jacqueline Brooks**   **Guadalupe Carmona**

Brief Description
The Pathways to the Education Sciences research training programs provide opportunities for undergraduate students to gain hands-on education research experience under the supervision of faculty mentors. In this panel, Pathways program directors will discuss how undergraduate research programs can create a culture of inclusion and help students begin to develop professional identities as researchers and a sense of belonging within research environments.

Key Takeaways
- Identify practical strategies to create inclusive undergraduate research opportunities and environments.
- Identify practical strategies to help undergraduate students develop professional identities as researchers.

Audience Interest
Faculty Attendees, Undergraduate Research Program Director and Staff Attendees

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6/26/2024 | 12:30 PM - 1:30 PM, ET | Salon E
Track: Contributions to the Practice of Undergraduate Research
Presentation Type: Oral Presentations

1. The Link Between Undergraduate Research and Career Readiness Through the Eyes of Graduating Seniors

   <u>Joe Wirgau</u>, Cora Burt
   Radford University, Radford, VA, USA

   Brief Description
   Across the country, students primarily choose to pursue higher education in order to improve their employment prospects and economic stability. Regrettably, over a third of recent graduates of bachelor's degrees express dissatisfaction with the value of their education in relation to its expense. Due to the importance of graduate employability, our research aims to find a measure of assessment for Career Readiness Competencies. The results of a qualitative, content analysis on a collection of prompted, graduating students' reflections who have participated in undergraduate research will be shared. Upon analyzing the coded reflections, several themes have emerged; the development of critical thinking and communication skills, students gaining experience within their fields, an increased sense of belonging, and personal and professional growth. We will share how we have mapped the NACE Career Readiness Competencies to the Content Analysis parent and child codes that describe how students see the value of UREs.

   Key Takeaways
   - Understand how students understand the value of undergraduate research towards their future careers.
   - Map the NACE Career Readiness Competencies to student outcomes from undergraduate research and creative inquiry experiences.

   Audience Interest
   Faculty Attendees, Undergraduate Research Program Director and Staff Attendees, Executive Leadership Attendees

2. Leveraging Student Research Leaders To Facilitate And Support Ongoing Course-based Research Experiences

   <u>Jessica O'Hara</u>, Catherine Spirito, Carol Vieira
   University of Maryland, College Park, MD, USA

   Jessica O'Hara   **Catherine Spirito**   **Carol Vieira**

   Brief Description
   This session will discuss strategies for incorporating undergraduate peer research mentors into course-based undergraduate research experiences (CUREs). Peer research mentors are student leaders who have completed and excelled in the CURE course and have been selected to train and mentor new undergraduate students as well as continue working on independent research

projects. Based on numerous years of experience from the First-Year Innovation and Research Experience program at the University of Maryland, presentation attendees will learn how to select and train students to become peer research mentors, as well as how to set expectations and appropriate roles for these students. Attendees will also develop an understanding of the benefits both undergraduate students and the undergraduate research program and/or course can gain from this role.

Key Takeaways
- Execute strategies for selecting and training students to become effective peer research mentors in a CURE setting.
- Identify appropriate expectations and roles for peer research mentors in a CURE setting.
- Develop an understanding of the advantages and benefits for both undergraduate students who serve as peer research mentors and the CURE itself.

Audience Interest
Faculty Attendees, Undergraduate Research Program Director and Staff Attendees, Executive Leadership Attendees, On-campus Stakeholder Attendees (e.g., Honors Colleges, scholarships, fellowships, libraries, etc.)

3. Using Course-Based Undergraduate Research Experiences to Impact Career Outcomes

Jill Schweitzer
Indiana University East, Richmond, IN, USA

Jill Schweitzer

Brief Description
This presentation will describe the implementation of a course-based undergraduate research experience (CURE) in a sophomore-level molecular biology lab course and techniques used to increase its impact on career outcomes. CUREs reduce barriers to participation in undergraduate research and promote a culture of research. In this CURE, students use bioinformatics tools and wet lab experiments to investigate a gene of unknown function in budding yeast. In this presentation, strategies for CURE development and design will be presented—with emphasis on products that enhance career development. By incorporating robust dissemination of results, CUREs can facilitate students' participation in the academic community and prepare them to articulate career competencies they gained. Using a survey tool to measure student gains, meaningful student results were found, including increased scientific knowledge and increased confidence in the process of science.

Key Takeaways
- Define the key elements of a course-based undergraduate research experience (CURE).
- Describe ways in which a CURE can impact career outcomes.
- Develop assignments for a CURE that support learning outcomes and career development.

Audience Interest

Faculty Attendees, On-campus Stakeholder Attendees (e.g., Honors Colleges, scholarships, fellowships, libraries, etc.), Undergraduate Research Program Director and Staff Attendees, Executive Leadership Attendees

6/26/2024 | 12:30 PM - 1:30 PM, ET | Salon F
Track: Assessment, Accountability and Sustainability
Presentation Type: Oral Presentations

1. Assessing Career Readiness through Undergraduate Research

   <u>Lance Barton.</u>, Sarah Powell
   UNC Charlotte, Charlotte, NC, USA

   Brief Description
   The UNC Charlotte Office of Undergraduate Research (OUR) will discuss how the assessment of student learning through undergraduate research has been constructed around student learning outcomes developed from the career readiness competency areas defined by the National Association of Colleges and Employers (NACE). OUR representatives will discuss how they are developing programming structures and assessment for these career readiness outcomes.

   Key Takeaways
   - Evaluate undergraduate research programming for career readiness learning outcomes.
   - Design an assessment of career readiness for their undergraduate research program.

   Audience Interest
   Faculty Attendees, Undergraduate Research Program Director and Staff Attendees, Executive Leadership Attendees, On-campus Stakeholder Attendees (e.g., Honors Colleges, scholarships, fellowships, libraries, etc.)

2. Career Readiness - Realigning the Mission of a Large-Scale Undergraduate Research Program - A 5-Year Reflection

   Patrick/Patricia Killion
   University of Maryland, College Park, MD, USA

   Patrick/Patricia Killion

   Brief Description
   Career readiness is being increasingly discussed as a central motivation and outcome for undergraduate research programs and experiences. The First-Year Innovation & Research Experience (FIRE, http://fire.umd.edu/) program at the University of Maryland (UMD) designed and implemented a significant realignment to its mission statement, values, and program-level learning outcomes with career readiness and student professional development as targeted student experiences and outcomes. This session seeks to analyze and discuss the outcomes of these changes through the vantage point of five years of implementation and refinement.

   Key Takeaways
   - Understand career readiness competencies (formal definitions).
   - Understand the realignment of a large-scale undergraduate research program around career readiness.

- Understand the scope of this realignment and what it takes to implement such a change.
- Understand the positive and negative impacts of this realignment.

Audience Interest
Faculty Attendees, Undergraduate Research Program Director and Staff Attendees, On-campus Stakeholder Attendees (e.g., Honors Colleges, scholarships, fellowships, libraries, etc.), Executive Leadership Attendees

6/26/2024 | 12:30 PM - 1:30 PM, ET | Salon G
Track: Structures and Models for Building and Growing Undergraduate Research
Presentation Type: Oral Presentations

1. If You Can Make It Here, You Can Make It Anywhere: Best Practices for UR Sustainability from a Study of Three Geographically Diverse Community Colleges

   <u>Daniel Beugnet</u>
   Tallahassee Community College, Tallahassee, FL

   Brief Description
   The range of students and institutions served by UR programs has become increasingly diverse in recent years. No longer is UR found solely in elite, research-intensive institutions. Today, UR programs are found in all categories of higher education institutions, including community colleges. But few studies have examined how to build and sustain UR programs within the community college context. This presentation will report on the results of a multiple case study that explored the implementation processes of successful UR programs at three geographically diverse community colleges, comparing best practices across diverse settings to suggest what might work throughout the community college sector, and beyond. Attendees will learn how these three institutions have sustained highly successful UR programs amid constrained resources. Attendees will also have the opportunity to explore this study's unique data set and draw their own conclusions about how the study's findings might apply to their own local contexts.

   Key Takeaways
   - Identify and replicate best practices for UR implementation in community colleges, and other higher education contexts characterized by constrained resources,
   - Implement the most scalable and cost-effective UR models for community colleges and other resource-constrained institutions, and
   - Leverage external funding, partnerships, and inter-hierarchy relationships to build and sustain UR programming in challenging environments.

   Audience Interest
   Faculty Attendees, Undergraduate Research Program Director and Staff Attendees, Executive Leadership Attendees

2. Leveraging Research Mentorship Training for Graduate Students and Postdoctoral Fellows to Increase UR Opportunities

   <u>Paige Zalman</u>, Richelle Bernazzoli
   Carnegie Mellon University, Pittsburgh, PA, USA

   Brief Description
   This presentation describes the Mentoring Undergraduate Researchers (MUR) Institute at Carnegie Mellon University, an initiative to build the UR mentoring skills of graduate students and postdoctoral fellows to support their professional development while simultaneously providing new avenues for undergraduates to become involved in the high-impact practice of UR. We have leveraged MUR's curricular content, which culminates by leading participants through the development of a UR mentoring strategy for their own research projects, to create a pipeline between MUR and introductory UR programming in the Carnegie Mellon Office of Undergraduate Research and Scholar Development, thereby creating pathways to increase UR participation on campus while providing MUR participants with the hands-on opportunity to directly apply their newly developed mentoring knowledge. To demonstrate the success of these initiatives, we will

also share assessment data from MUR and describe strategies that can be adopted in other institutional contexts to replicate these promising outcomes.

Key Takeaways
- Implement curricular content from the Mentoring Undergraduate Researchers Institute within their own campus contexts.
- Design graduate and post-doc research mentorship programming that leads to the provision of new undergraduate research project opportunities.
- Assess mentoring self-efficacy developed as a result of formal graduate and post-doc mentorship training.

Audience Interest
Undergraduate Research Program Director and Staff Attendees

Additional Author(s)
Jacqueline Pincus, Laura Pottmeyer, and Chad Hershock

6/26/2024 | 2:00 PM - 3:00 PM, ET | Salon C
Track: Structures and Models for Building and Growing Undergraduate Research
Presentation Type: Workshop

Design and Administration of Custom Software for Matching Undergraduate Researchers and Faculty Mentors

Svitlana Zbarska
Iowa State University, Ames, Iowa, USA

Svitlana Zbarska

Brief Description
Providing support in finding a faculty mentor for undergraduate students is one of the main goals of every Undergraduate Research Program or Office. There are a few commercially available software packages that provide a different level of assistance in the matching processes between undergraduate research assistants and faculty mentors. Most of them have some limitations, require constant maintenance, or are out of budget. At Iowa State University the Undergraduate Research Office together with the ISU IT department developed an in-house online platform, which assists in the matching process of freshman honors students and faculty mentors as a part of the First-Year Honors Mentor Program. During this workshop, we will share the main modules that were used to develop the matching platform, demonstrate the interface of registration pages for students and faculty mentors, discuss the principles of matching, show the admin side of the software and evaluate its pros and cons.

Key Takeaways
- Understand the basic principles of developing a matching platform.
- Learn modules of the Freshman Mentor Program.
- Design registration pages for undergraduate research assistants and faculty mentors.

Audience Interest
Undergraduate Research Program Director and Staff Attendees, Faculty Attendees, Executive Leadership Attendees, On-campus Stakeholder Attendees (e.g., Honors Colleges, scholarships, fellowships, libraries, etc.)

6/26/2024 | 2:00 PM - 3:00 PM, ET | Salon D
Track: Structures and Models for Building and Growing Undergraduate Research
Presentation Type: Workshop

NIH and NIGMS Funding for Undergraduate Biomedical Research

Sydella Blatch
The National Institutes of Health, NIGMS, Bethesda, MD, USA

Sydella Blatch

Brief Description
The first part of this session will outline new and existing funding opportunities from NIH, including NIGMS, with the goals of supporting biomedical research capacity building for limited resource institutions, institutional training grants to support students in research, and select workforce development and faculty research awards. The second part of the talk will share strategies on how to approach the large number of NIH funding opportunities and advice for attendees with a beginning to moderate understanding of how NIH funding works.

Key Takeaways
- Summarize the major NIH grant programs for students and faculty engaged in biomedical research at predominately undergraduate and/or resource limited institutions.
- Understand how to locate and interpret NIH funding opportunities.
- Describe ways to interact with NIH personnel and other resources available before applying to NIH funding.

Audience Interest
Faculty Attendees, Undergraduate Research Program Director and Staff Attendees, Executive Leadership Attendees, On-campus Stakeholder Attendees (e.g., Honors Colleges, scholarships, fellowships, libraries, etc.)

6/26/2024 | 2:00 PM - 3:00 PM, ET | Salon E
Track: Assessment, Accountability and Sustainability
Presentation Type: Panel Discussion

Shifting Priorities for Campus Offices: Eliminating, Down-sizing, or Re-envisioning Activities and Programs

Linda Blockus[1], Suma Datta[2], Melodie Eichbauer[3], David Salomon[4], Mulumebet (Millie) Worku[5]
[1]Univesity of Missouri, Columbia, MO, USA. [2]Texas A&M University, College Station, TX, USA. [3]Florida Gulf Coast University, Fort Meyers, FL, USA. [4]Christopher Newport University, Newport News, VA, USA [5] North Carolina Agricultural and Technical State University, Greensboro, NC USA

Brief Description
Building, growing, and enhancing are key strategies for successful campus undergraduate research offices. However, what gets prioritized when a campus program reaches a level of maturity and finds it impossible to sustain all activities under the pressure of budget cuts and/or the desire for new initiatives?   What activities get dropped from the growing menu of projects?   Are financial and staff resources reallocated? Is it ok to cut back on quality?   What are the campus political ramifications of sunsetting a program? How is return on investment measured?   In campus environments where doing more with less is a common issue, this panel and discussion will explore how mature programs have made decisions to eliminate or reprioritize activities to adapt to the shifting priorities of their universities. Attendees will be encouraged to share their experiences and consider the necessity of making such decisions to achieve their overall responsibilities and address new goals.

Key Takeaways
- Identify campus activities that provide high and low returns on investment, based on shifting campus priorities
- Articulate potential impacts of eliminating, down-sizing, or re-envisioning activities for different stakeholders (students, faculty, academic units, the institution, and the URSCA office)
- Discuss concerns with eliminating, down-sizing, or re-envisioning successful activities

Audience Interest
Undergraduate Research Program Director and Staff Attendees, Executive Leadership Attendees

6/26/2024 | 2:00 PM - 3:00 PM, ET | Salon F
Track: Contributions to the Practice of Undergraduate Research
Presentation Type: Workshop

Integrating Entrepreneurial Mindset into Undergraduate Engineering Research

Irene Reizman[1], John Peponis[2]
[1]Rose-Hulman Institute of Technology, Terre Haute, IN, USA. [2]Lawrence Technological University, Southfield, MI, USA

Irene Reizman

John Peponis

Brief Description
An entrepreneurial mindset (EM) encompasses attitudes, motivations, and expectations that, while not necessarily leading to new business formation, lead to value creation through the application of technical skills. Educational strategies based on EM have been successfully applied in undergraduate engineering education, but they have not been widely incorporated into undergraduate research experiences. Our team has developed a series of workshops, videos, and activities that introduce EM in a research context and address common challenges in undergraduate STEM research. In this workshop, we will discuss how aspects of EM can be used to improve the undergraduate research experience for students as well as faculty. Participants will complete short sample activities from our student and faculty workshops and will brainstorm possible venues for implementation on their campuses. All our materials, including facilitator guides, videos, worksheets, and presentations are available to participants to download at https://www.engineeringunleashed.com/undergraduate-research.

Key Takeaways
- Describe how the key elements of an entrepreneurial mindset (EM) can be integrated into undergraduate research and benefit students.
- Describe several ways to overcome hurdles in research mentorship and training using strategies from EM.
- Brainstorm ways to implement new training materials integrating EM and undergraduate research on their own campuses.
- Access a repository of materials for integrating modules into first- and second-year courses, running research training workshops for undergraduate researchers, and delivering faculty development workshops on research mentorship.

Audience Interest
Faculty Attendees, Undergraduate Research Program Director and Staff Attendees, Executive Leadership Attendees, On-campus Stakeholder Attendees (e.g., Honors Colleges, scholarships, fellowships, libraries, etc.)

Additional Author(s)
Liping Liu, Ken Van Treuren, Mary Lauren Benton, Maysam Nezafati, Brandy Blake, Michelle Marincel Payne, Blake Johnson, Sophie Wang, and Anthony Jacobi