# Introduction

Lorraine S. Wallace, *SPUR Issue Editor*

Welcome to the inaugural online issue of *Scholarship & Practice of Undergraduate Research (SPUR)*. The fall issue covers a wide range of emerging and engaging topics in undergraduate research, scholarship, and creative inquiry (URSCI). Specifically, the articles address the ongoing need for undergraduate research advocacy, the importance of developing and refining research questions, the benefits of using qualitative research methods in designing URSCI studies, implementing innovative undergraduate research dissemination avenues, evaluating outcomes for faculty mentors in undergraduate research, and new strategies for infusing and assessing undergraduate research within the curriculum.

The issue includes two editorials. *SPUR* Editor in Chief Patricia Mabrouk (Northeastern University) discusses the importance of developing focused and measurable research questions in the design of URSCI scholarly projects. She provides several strategies (e.g., carefully examining peer-reviewed literature and networking with CUR colleagues) to guide research question formulation and ultimately study design. Associate Editor Lisa Gates (Middlebury College) shares her perspective on the need for all of us to contribute to *SPUR* as champions, authors, peer reviewers, and editorial board members. Our collective actions to bolster *SPUR* will support the common good as the journal continues to evolve and expand. Gates is stepping down from *SPUR* after serving on the Editorial Advisory Board since the journal's inception in 2017.

Shifting the focus to research methodology skill development, Mariel Pfeifer and Erin Dolan (University of Georgia) have coauthored a comprehensive introduction to the application of qualitative research methods in URSCI studies. Trained as biologists, Pfeifer and Dolan's interests in educational research prompted them to learn and develop qualitative research skills. Their commentary provides guidance on the generation of qualitative research questions, study design, interpretation of results, dissemination of findings, and key ethical considerations. They also include a comprehensive table summarizing qualitative research steps, examples, and a plethora of references and resources that are sure to be invaluable resources to readers interested in using qualitative methods in their own URSCI studies.

Jannon Fuchs (University of North Texas), the 2023 CUR–Goldwater Scholars Faculty Mentor awardee, offers a thought-provoking commentary on why and how faculty can provide quality research mentorship to undergraduates. Fuchs challenges us to consider how we can and should advocate for sustained undergraduate research support on our campuses. When reading her contribution, I encourage you to consider the transformational power that motivation and encouragement can have on positive student outcomes.

Carinna Ferguson (University of Maryland) conducted a systematic literature review to explore outcomes for faculty mentors in undergraduate research. In analyzing available studies, Ferguson discusses three emerging themes (faculty mentor outcomes, barriers to mentorship of undergraduate research students, and supporting factors associated with mentorship of students). Importantly, the summative findings reveal that faculty mentors in undergraduate research typically face more barriers than supporting factors. These findings are important for us all to consider as we seek to increase undergraduate research opportunities for students on our campuses. Faculty need continual support and encouragement to begin and maintain their undergraduate research mentorship activities.

Ciarán O'Leary (Technological University Dublin) and colleagues from five Irish universities discuss a collective initiative recently implemented by the Science Undergraduate Research Experience (SURE) to promote research awareness among undergraduates at the beginning of their studies. SURE*byts* is an innovative project that provides access to research through short video presentations by experienced and early-stage researchers (https://sure-network.ie/surebyts). The SURE*byts* video collection addresses a wide range of academic disciplines (e.g., biology, food and nutrition, environment, and sustainability) and research questions ("How do you reduce the cost of a tsunami simulation?"). The authors conclude their article by discussing lessons learned and the transferability of SURE*byts* to other academic settings.

Alissa Ruth (Arizona State University) and colleagues (San José State University) describe the development and implementation of a laboratory-based research experience (LURE) in the social sciences. In their article, they share a comprehensive list of LURE characteristics (e.g., including multiple lab members with varying experience who collaboratively work together, learn from each other, and provide mentorship) and high-level descriptions of three LUREs at Arizona State University. In pooled undergraduate research assessment data, students reported many positive impacts of LURE participation related to career path

clarification and the overall research process (e.g., understanding how scientists work on real problems).

In her article, Irene Guttila Reed (University of Saint Joseph) provides strong evidence of how a fully asynchronous online cancer genomics course-based undergraduate experience (CURE) can expand research access for a greater number of students. Reed outlines design and assessment insights for those considering development of an online CURE at their own institution. In addition to providing examples of key CURE learning activities (e.g., cBioPortal webinars, figure creation) and project timelines, the article also highlights considerations for future improvements and expansion.

The article by Joyce Kinkead (Utah State University) provides a thoughtful justification of how a course-based English research project fulfills a pertinent land-grant mission objective at Utah State University. Kinkead presents the challenges and successes of transitioning an in-person data analysis–based English course to a virtual delivery format in response to the onset of the COVID-19 pandemic. Throughout her article, Kinkead provides concrete examples, prompting others to critically evaluate ways in which they can revamp and expand undergraduate research mentoring and teaching activities at their academic home institutions.

In their article, Praopan Pratoomchat (University of Utah) and Rubana Mahjabeen (University of Wisconsin–Superior) outline examples of data-based assignments that foster research skills among students enrolled in two introductory economic courses, Principles of Microeconomics and Principles of Macroeconomics, at the University of Wisconsin–Superior. For example, using secondary data sources (e.g., US Bureau of Labor Statistics, US Bureau of Economic Analysis), students developed research questions, generated findings, and reported results in interactive visual formats. As part of their course assessments, Pratoomchat and Mahjabeen share student self-reported learning outcomes (e.g., improved ability to display data on local or regional economies using Excel).

The final contribution to this issue is a vignette by Sharon Green (Davidson College), who eloquently describes a course-based collaborative theater research project. Students were charged with critically analyzing and evaluating diversity and inclusion in the context of playwright representation in faculty-directed theater work at nationally ranked liberal arts institutions. The generated findings resulted in an immediate call to action at Davidson College, where greater representation (i.e., of women and BIPOC) became a requirement for all future theatrical productions. Through this collaborative research project, students were able to observe the impact of leveraging evidence-based data to make real-world changes.

In sum, we hope this collection of editorials, commentaries, articles, and vignettes provides our readers with ideas and resources to employ in their own undergraduate research settings. As you complete your own URSCI research projects, we encourage you to submit your work to *SPUR*.