

Introduction

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The articles in the Winter 2025 issue of *Scholarship & Practice of Undergraduate Research* explore a wide range of topics including mentoring, science identity, career readiness development, and hands-on activities to increase undergraduate research positivity.

The issue opens with two thought pieces focused on generative artificial intelligence (AI). In my editorial, I discuss some of the opportunities and issues that readers, authors, and reviewers need to consider when using AI in their submissions. I introduce the guidelines we have developed for the use of generative AI tools and invite you our readers to share your applications, concerns, and questions.

In their commentary, Haseeb Kazi and Areeba Kazi (Triune University) share their early experiences and perspectives on AI's potential benefits in relation to the critical issues of diversity, equity, and inclusion (DEI) in undergraduate research from their perspectives as scholarly educator and undergraduate student, respectively. Their contribution provides a brief historical introduction to AI, followed by a thoughtful introduction to some of its potential applications in undergraduate research and a balanced exploration of the potential benefits and challenges to DEI through use of AI undergraduate research experiences. My hope is that this contribution spurs our readers to take an active leadership role in responsible uses of generative AI in your undergraduate research ventures.

In the first of two contributions focused on the development of science identity in student researchers, Rocio Mendoza (University of Redlands), Ann Y. Kim, Gino Galvez, and Chi-Ah Chun (California State University, Long Beach) report on the positive impact that embedded written reflection activities had on student participants. Students responded to two writing prompts and shared their responses at three points over a two-year period. The authors found these reflection activities promoted reflexivity and provided a safe space in which students could challenge doubt and limiting beliefs and explore multiple identities.

Next, Callie L. Avondet, Yolanda Chavez, Sara E. Grineski, and Timothy W. Collins (University of Utah) and Danielle X. Morales (Worcester State University) conducted a survey study using the Mentor Competency Assessment tool to investigate the impact of faculty and postgraduate

mentor competencies on undergraduate researchers' science personal identity and science social-identity during the pandemic. Their work supports the value of mentor competency, engaging competent postgraduate mentors, and leveraging mentoring triads in promoting undergraduate research students' science identities.

Cora Burt, Joseph Wirgau, and John Brummette (Radison University) analyzed graduating students' written reflections on their undergraduate research experiences using content analysis to investigate whether undergraduate researchers associate growth in career readiness competencies with their research experiences. The researchers identified two to three of the National Association of College's and Employers eight career readiness competencies on average in the reflections. Growth in career and self-development and communication were the competencies most frequently mentioned.

Melissa Southwell and Madeleine Doiron (Flagler College) investigated the impact of a faculty-led hands-on lab activity versus a faculty panel discussion about undergraduate research on first year and transfer students at a primarily undergraduate institution. Students' positivity toward science and undergraduate research was investigated an attitudinal survey administered after the research sessions. The researchers found that the hands-on approach had a more positive impact on first-generation participants' motivation and self-efficacy. The authors argue that the hands-on approach could be a useful institutional first step in promoting positive attitudes toward undergraduate research and increasing student participation.

Finally, Sanga Sung (University of Illinois Urbana-Champaign) reviews *MLA Guide to Undergraduate Research in Literature, Second Edition* (edited by Elizabeth Brookbank and H. Faye Christenberry). This new edition designed to guide undergraduates through the research process, will be an invaluable addition to any college or university library.

Every year, we make it a point to recognize and thank our peer reviewers. *SPUR* would not be the journal it is if not for your expertise and the gift of your time and energy. Thank you! Peer review takes time, knowledge, skill and care. For this reason, this year, we initiated a new award to recognize our best peer reviewers to recognize the critical role that our peer reviewers play and recognize those providing constructive, rigorous and actionable peer reviews of *SPUR* manuscripts. A committee constituted of the Associate Editors and myself selected Best Peer

Reviewer Annual Awardees based on our evaluation of anonymized peer review. We used the following criteria: (1) completion of ≥ 2 peer reviews of initial submissions and/or resubmissions within the previous calendar year, (2) timeliness (i.e., submitted by the specified SPUR deadline) of completed peer reviews, (3) clear peer review style (i.e., constructive and positive tone), and (4) substantive and structured feedback (e.g., detailed comments on all manuscript sections, actionable comments to strengthen the submission). The inaugural awardees are:

The inaugural awardees are listed alphabetically below.

Christopher Barney, Emeritus Professor of Biology, Hope College

Lance Barton, Director of Undergraduate Research, University of North Carolina at Charlotte

Erin Dolan, Professor of professor of Biochemistry and Molecular Biology, University of Georgia

Michael Loui, Emeritus Professor, Department of Electrical and Computer Engineering, University of Illinois Urbana Champaign