

Dear Readers,

Welcome to Volume 17, Issue 2 of the URJ: *First. Further. Forward. Challenge the Now, Issue II*. This issue is a testament to the abilities of UC Merced's undergraduate student researchers to first interpret, accept, and challenge research of the now and conduct research of their own that advances our campus's, and, in fact, all scholarly endeavors further, driving forward into the future. Preparing for this issue's launch was not without its own challenges, but our authors and editorial board persevered, bringing forth high-quality research papers, advancing research in various fields. We hope you find as much value in the research presented in this journal as we found in the process of working with it. Now, from our team, here are some personal reflections on this past semester of hurdles and defiant leaps that brought this issue to you:

With the new semester comes new challenges and opportunities. As the continuing Editor-in-Chief, there will always be obstacles, and the journey to publish a journal is never smooth. Along the way, I have learned, and will continue to learn, the balance between efficiency and effectiveness and between being assertive and being open-minded. Thankfully, I had the support of the editorial board, and I am forever grateful for their diligence and hard work. It has been a privilege to work with the authors this semester, and I encourage everybody to always challenge their current selves. **Emily Le | Editor-in-Chief; Natural Sciences Section Editor**

Serving as both Outreach Coordinator and Editor has provided me with two distinct yet equally rewarding experiences. As part of Outreach, my role was to encourage students to publish their research and have the opportunity to have their work recognized and accredited. As an Editor, I've had the privilege of supporting my author through the publication process and guiding the development of commendable and historically grounded research. Our student-run journal plays a vital role in offering undergraduates a platform to publish, and take their first step into their academic and professional journeys. Without our student-authors, the URJ would not be here today. **Kaisy Reynoso | Managing Editor of Outreach, Events, & Social Media; Editorial Team**

It has been a privilege to serve as an Editor and Secretary for the URJ in my final year at UC Merced. Though I viewed my responsibilities as small at first, our Chief and Executive Editors have helped me recognize the importance of each role on the team. Through helping with little tasks between editorial and art-related work, it's helped take some of the stress out by getting them out of the way and allowing bigger items on the list to maintain priority. As an Editor, it's been fascinating to see the different areas and spectrum of studies within the same field, both from this semester and the last. I am excited for our authors and honored to have been a part of the process in helping get their work published and

into the wider pool of research. **Micah Angela Lardizabal | Secretary & Art Director; Editorial Team**

Serving as the Executive Editor of Operations of the URJ has pushed me to think flexibly and plan intentionally—skills essential to challenging the now. One of my biggest responsibilities—organizing the Gala—required strengthening communication and building new systems and partnerships from the ground up. It's work that I, along with the team, gladly take on to prepare the URJ for the future. I am proud to support authors who are pushing the boundaries of undergraduate research at UC Merced, many of whom are publishing for the first time. Together, we move research further by amplifying diverse voices, and forward by fostering meaningful opportunities for scholarly growth. **Yu Fang Tseng | Executive Editor of Operations; Social Sciences Section Editor**

This has been my first semester as a part of the URJ and my first time editing a paper of this caliber, and because I am so inexperienced, it's forced me to learn rapidly and adapt. In doing so, I think I have gained valuable experience I wouldn't have gained otherwise by staying inside my comfort zone. It's made me more responsible, as if I don't step up to the task, I know the whole team will suffer. I've had to learn about statistical software and techniques, had to reference CDC and census data, and scheduled meetings with professors. **Cyrus Griffin | Applied Math & Physics Section Editor; Editorial Team—Data & Workflow**

Working with my author, seeing them challenge methodologies and practices of the now, especially those within a field that must be continually challenged, truly reminded me what the mission of our journal is about, and was, admittedly, inspiring. Witnessing research come to fruition in a collaborative effort (no matter how comparatively minor the role we editors play in it might be) is *the* great satisfaction of working with the URJ. I am proud of what our authors have accomplished this semester, and I am proud to be a part of the team that helped them get to where they deserve to be. **Mitchell Bauer | Lead Copy Editor; Humanities & Arts Section Editor**

Being granted the opportunity to return as the Digital Director was a wonderful experience to finish off previous projects and to better expand my knowledge and ability with web development and writing as a whole. Assisting authors in expressing new and upcoming concepts is a fascinating experience, as I am exposed to the current conversations in the scientific and research worlds. Being exposed to new and upcoming ideas and concepts, along with the opportunity to assist authors to better express themselves, is a fantastic experience I am glad I was allowed to repeat again. **Zachary Gatto | Digital & Web Operations Director; Editorial Team—Data & Workflow**

One must remember this labor of creating a journal is a relationship, and a one-sided relationship at that. We are here for the authors. Any accolades we may get to put on a CV or knowledge gained in working with a team, or in putting together the journal, pales in comparison to what our authors have done. Their commitment to putting their research out there—the spark that hopefully will continue onto more and more research—that is what this journal is about.

**Christopher Finley | Director of Campus Outreach & Promotion;
Humanities & Arts Section Editor**

As a graduating senior, this was my first and, sadly, final semester as part of the Undergraduate Research Journal team. Even though I joined towards the end of my undergraduate journey, I was welcomed with open arms and quickly felt a sense of belonging and purpose. As a senior, having the opportunity to support and uplift the voices of aspiring undergraduate researchers was incredibly fulfilling. It marked a full circle moment that not only highlighted how much I have grown, both professionally and academically, but also gave me deep appreciation for the individuals who keep the lights running at the URJ and the meaningful impact we are able to create when we come together and collaborate with our student authors. **Andy Hernandez Torres | Team Photographer;
Engineering Section Editor**

As you go forth, perusing this issue, remember that with every paper, every word, you read, our authors are bringing you further forward from where you first began, from where you are now, and what you leave behind is irretrievable. We cannot learn, cannot live, unless we are constantly pushing forward, challenging the now. By acknowledging and internalizing that fact, you allow these up-and-coming researchers, who embody the idea to challenge the now, to prove their academic pursuits to be as impactful and propulsive as we know them to be.

So, see you—not now, of course—but later, in the future, when you have moved forward from where you first were, plunging deep into the wealth of this journal the hard work of our student authors and editors has brought to you, enjoying it, learning from it, as you are sure to be.

Always Challenging, Always Persevering, Wishing the Same for You,
The Spring 2025 URJ Staff