



Vanderbilt Undergraduate
Research Journal
Volume 11 | Spring 2021

Photo:
"Best urban college"
by Daniel Dubois

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*Non-undergraduate researcher (faculty, postdoc, graduate student, etc.)

VURJ VANDERBILT UNDERGRADUATE RESEARCH JOURNAL

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A Note from the Editors

After a 6 year hiatus since 2015, we are proud to present Volume 11 of the Vanderbilt Undergraduate Research Journal. Our mission was to showcase the brilliant work of Vanderbilt students from any discipline and we are thrilled to publish this volume after over a year and a half of work. Despite our infancy as an organization, we were grateful to receive 32 submitted manuscripts this year due to the tireless work from our Publicity committee. In this volume, we are pleased to present papers from the Natural Sciences, Social Sciences, Humanities, Political Sciences, and Education, with many papers combining methods of study from different fields.

This volume would not have been possible without the help and generosity of many kind people. Although this is far from an exhaustive list, we wanted to take this opportunity to express our gratitude to those who helped us immensely in reaching our goals.

First and foremost, we want to thank Carolyn Floyd of the Office of Immersion for overseeing this project from the beginning. Carolyn brought the executive board together last year after we reached out to her individually about our interest in restoring the journal, and has been extremely kind and supportive throughout the process. Carolyn has been a true cornerstone of this organization. We would also like to thank Vice Provost Beasley, who generously gave us her time, expertise, and resources and allowed us to ensure that the university administration had some equity in the process. Dr. Ruth Kleinpell of the School of Nursing served as our faculty adviser this year, and her experience sitting on and managing numerous review boards in the past was extremely valuable for us. We truly appreciate all of her help with the manuscript review process and her patience with the constant questions we sent her way about operating a research journal. Finally, we had two organization coaches this year, Chance Ryon and Allie McHugh, who provided a bridge between our group and the Office of Student Organizations. Along with being extremely positive and supportive, Chance helped us better understand how registered student organizations on campus operate. Allie helped us navigate the finances and funding process.

One of our favorite parts of this project was the way we were able to engage with Vanderbilt undergraduate researchers. We want to thank any and all authors who submitted manuscripts this year for their dedication to scholarship, excellent communication with our editorial board, and courage to put their work forward for evaluation. We would not have been able to release this issue without all of the brilliant, hard working Vanderbilt undergraduates who carry on a rich tradition of undergraduate research every year.

We saw the brilliance of our undergraduate body firsthand with our 57 undergraduate peer reviewers, who offered expertise in a wide variety of disciplines. We want to thank each and every one of our peer reviewers for the hours they took in evaluating the manuscripts we received and for taking the time to provide genuinely helpful and thoughtful feedback whether or not they recommended the manuscript be accepted. Our Publicity, Liaison, Legal, and Website Committees were incredibly valuable in helping us build the infrastructure for this journal as well as growing our brand on campus. Our copy editors were important contributors to the layout and design of articles this year, as well as ensuring that our articles contained minimal syntax or grammatical errors. In particular, we want to thank Hannah Ward for all of her tireless work in creating new templates to transform our manuscripts from Word documents into aesthetically beautiful compositions. We would also like to acknowledge Sachin Sanam (B.S.'20) for having a central role in building the infrastructure for the organization, which was instrumental in making this journal a reality.

This journal is supported by the Jean and Alexander Heard Library system. Along with hosting our website (<https://vurj.vanderbilt.edu>) they also provide insights from their own experience from working with other

research journals on campus. Specifically, Sarah Swanz has helped us with drafting our legal documents, search indexing, and other efforts to ensure our legitimacy as a journal. Tao You has helped us with all matters relating to the website.

One of our biggest concerns coming into the year was training our staff of peer reviewers to ensure they felt well prepared to critically read and evaluate advanced research articles. Dr. John Bradley of the Writing Studio was incredibly helpful to this end. When we first met Dr. Bradley at our organization fair, he told us how he used to show VURJ articles to first year students to inspire them and give them an example of what they could achieve. This stuck with us throughout the year and added an entirely new layer of meaning to our work. He was also gracious enough to hold an entire workshop to train our reviewers on what to look for in good research writing of any discipline. Dr. Kathleen Gould of the Department of Cell and Developmental Biology generously put on another tremendous workshop later in the year, which helped give our reviewers another general perspective that they could readily apply as they were reading the manuscripts. We want to thank our graduate mentors for holding workshops to train reviewers in each specific discipline and being an available resource for any of our peer reviewers with discipline-specific questions.

Since this was all of our first year fully operating a research journal, we constantly sought advice and insight about all stages of the process from those with more experience. We are extremely grateful for every single piece of advice we received, no matter how big or small because we could have never done this on our own. In particular, Jessica Miles who served as VURJ Editor-in-Chief in 2011, provided us with a connection to the previous iteration of the journal and had some excellent tips with both peer reviewer recruitment and training. Dr. James Sears and the Vanderbilt Postdoctoral Association had some wonderful insight for us on the ethical standards we should uphold for manuscripts. Alex Camai and Prof. Elizabeth Covington of Vanderbilt Lives gave us great lessons from their experience with running a publication on campus, specifically with communicating with authors and maintaining year-to-year continuity.

Finally, we truly appreciated the support from the Office of Immersion Resources. In particular, Jack Wong allowed us to hold a virtual booth at the undergraduate research fair in the fall which introduced us to our faculty adviser, and Brittany Baker gave us the opportunity to appear on a panel reaching out to international students interested in research. The OIR was always willing to help us raise awareness about the opportunity to serve on our review board and/or submit manuscripts. We are excited to continue collaborating with the OIR in the future.

We wanted to mention all these wonderful people by name to emphasize how important they all were in the growth and development of this project. We are so happy to achieve our goal of publishing the first volume of this journal since 2015 and we truly needed each and every one of their kindness and generosity.

If you are interested in joining our group in 2021-22 as a peer reviewer or a committee member, please join our [AnchorLink](#) page or send us an email at vurj@vanderbilt.edu. If you are interested in submitting a manuscript, please visit our website <https://vurj.vanderbilt.edu> for more information and email us with any questions.

Happy reading and best wishes,

2020-21 VURJ Executive Board