

Dear Readers,

I am proud to announce the publication of the 2021-22 edition of the Columbia Undergraduate Science Journal! The Columbia Undergraduate Science Journal is our original namesake publication, dedicated to sharing scientific knowledge of the highest quality of scholarship resulting from undergraduate scientific research.

The need for accurate scientific research and reporting is ever-present, especially now more than ever before. A significant issue that plagues society today is misinformation. Opinions uninformed by science present a danger to society - we need not look any further than the still-ongoing COVID-19 pandemic for an example of the consequences of unscientific misinformation. A society misinformed miscalculates. So, in a world of chaotic opinion, we must remain steadfast in our pursuit of scientific knowledge.

Although scientific facts should inform our opinions, it is important to remember that science itself is not a list of facts, but rather a process of discovery. Students all over the world contribute to this collective process as scientific researchers. Through scientific research we explore nature, discover truths, and debate ideas in our relentless pursuit of knowledge. The Columbia Undergraduate Science Journal is a platform for student scientists to share their knowledge so that we may become a better informed society.

It was an honor to read, edit, and review submissions made to our journal. I am grateful to our Columbia Undergraduate Science Journal team and editorial board for their significant contributions to our scientific review process. I am especially grateful to Kazi Rabbe, Editor-in-Chief of the Columbia Undergraduate Science Journal, whose leadership made this publication a success. I would also like to thank the Columbia Undergraduate Science Journal Faculty Advisory Board, a group of esteemed Columbia University professors whose support ensures publication of the highest quality of scholarship.

Congratulations to our authors, and thank you to our readers!

Arjun Kudinoor  
President, Chief Editorial Officer  
Columbia Undergraduate Science Journal