

A microscopic image of diatoms, which are single-celled organisms with intricate, silica-based shells. The image shows a dense field of these organisms, with some appearing as large, circular structures and others as smaller, more complex shapes. The colors are primarily brown, green, and blue, with some iridescent highlights. The background is dark, making the diatoms stand out.

# CJUR

# CANADIAN JOURNAL of UNDER GRADUATE RESEARCH

## Something in the water

Diatoms found in cadaver bloodstreams can help forensic experts identify cases of non-accidental or faked drowning, but existing literature on the technique date back to the 1970's and 80's; a new review is in order (p.11)

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### Mad world

Attitudes towards developmental disorders have moved towards positive acceptance, but biotechnological advances risk reviving eugenicist views (p.6)

### Gut feeling

Previous studies showing colonic neuronal reduction in antibiotic-treated laboratory mice are borne out in captive *Peromyscus* specimens (p.22)



# CANADIAN JOURNAL *of* UNDERGRADUATE RESEARCH

*A student-led publication that aims to highlight  
research by undergraduate students of all  
disciplines*

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# Letter from the editor-in-chief



It is my pleasure and great privilege to present to you Volume 6 Issue I of the Canadian Journal of Undergraduate Research (CJUR). Supporting undergraduate students across Canada by providing an accessible platform for them to share their research, engage in multidisciplinary dialogue, and experience the peer-review process has always been our number one priority. Throughout the years, we have published a total of 49 manuscripts from universities all over the country. We strive to reach out to more students and we look forward to seeing CJUR grow over the coming years.

2021 marks CJUR's 6<sup>th</sup> anniversary, and since our founding, we have received immense positive feedback from numerous students, professors, and organizations in the academic community. Throughout the years, we have grown as both a journal and a team. This year, we led a major reviewer recruitment event and onboarded over 100 strong graduate students, post-doctoral fellows, and professors who play a vital role in our peer-review publication process. We have also expanded our content categories to include various new submission types and have worked to make our journal as multidisciplinary as possible by reaching out to academic departments from all fields. This year, our outreach team headed new initiatives with the aim of building relationships with student organizations from universities all across the country. We hosted online workshops and Q&A sessions on academic writing and publishing, reaching out to hundreds of students. During this ongoing pandemic, CJUR believes showcasing students' work is as important as ever, and we will continue to strive to provide an accessible publishing platform for all.

This issue includes submissions from the University of British Columbia, the University of Ottawa, Simon Fraser University, Trent University, and Western University. Each manuscript has undergone two extensive review stages by graduate students, post-doctoral fellows, and professors specializing in the particular field of research. In this issue, we explore various topics, from the effects of antibiotics on gut neurons to the historical perceptions of mental illness. Each manuscript is a reflection of the dedication and work undergraduates put into their research, and I hope you join us in celebrating their work.

As this academic year comes to a close, I reflect on everything our team has achieved. As the CJUR editor-in-chief and chair since 2018, I have had the privilege of working with dedicated and driven students from UBC and other universities from across Canada, who are passionate about research and bringing publication opportunities to the academic community. A massive thank you to the amazing team who has made this journey truly incredible: Derrick Sutanto, Michelle Lisonek, Jashan Saini, Lorenzo Lindo, Ryan Hong, Monica Luo, Uyen Nguyen, Natnaiel Dubale, Tommy Kuo, Jordi Chaffer, Matthew Ma, Claire Cheung, Ryan Chan, and Max Seymour. Although many of us have not been able to meet in person, we have made lifelong friendships and it has truly been an honour to lead this team. I commend everyone who has persevered during this past year, and I applaud all the people that have helped make CJUR the journal it is today. Thank you for your continued support, and I hope you enjoy Volume 6 Issue I.

Yours sincerely,

**Mahta Amanian**

EDITOR-IN-CHIEF & CHAIR  
Microbiology & Immunology

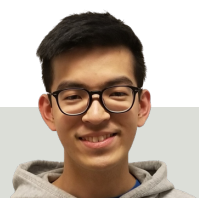
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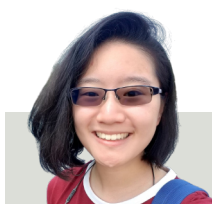
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