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JULS

Journal of Undergraduate Life Sciences



Resolving nature's puzzles

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Call for Submissions

The *University of Toronto Journal of Undergraduate Life Sciences (JULS)* is always looking for submissions that showcase the research achievements of undergraduate life science students. We welcome manuscripts in the form of Research Articles or Reviews. Submissions must come from University of Toronto undergraduate students or undergraduate students outside of U of T who have conducted research for at least three months under the supervision of a faculty member at U of T.

Research articles should present original research and address an area of the life sciences. Mini-reviews should focus on a specific scientific topic of interest or related to the research work of the author. Research articles should be between 2,000-3,000 words and mini-reviews between 1,500-2,000 words. All works must not have been previously submitted or published in another undergraduate journal. The deadline for submissions for each issue will appear on the JULS website <http://juls.sa.utoronto.ca> or <http://jps.library.utoronto.ca/index.php/juls>.

Contact Us

JULS is always looking for contributions from writers, artists, designers, and editors. Please contact JULS at juls@utoronto.ca if you are interested in joining the JULS team, or have any questions regarding any matter pertaining to the journal, or visit our websites: <http://juls.sa.utoronto.ca> or <http://jps.library.utoronto.ca/index.php/juls>.

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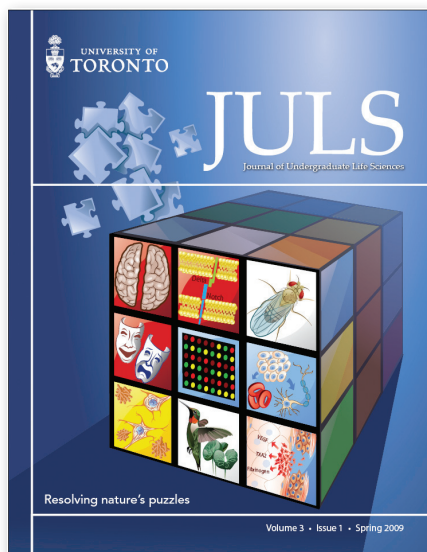
About the Cover

The scientific endeavor is portrayed as a "puzzling" challenge in an attempt to bring seemingly disparate areas of research together in a cohesive image that draws the viewer in.

Cover illustration by **Andreea Margineanu**.

Letter From the Editors

Dear readers,



Welcome to the third issue of the University of Toronto *Journal of Undergraduate Life Sciences (JULS)*. This year, we continue to build on the foundation that our predecessors have put in place. As a student-run peer-reviewed journal, *JULS* upholds the tradition of promoting undergraduate academic research and interdisciplinary thinking. We provide a unique platform for University of Toronto students to showcase their work of science, and through conducting peer or faculty review processes similar to professional journals, we hope to help authors write more effectively.

In addition to traditional *primary research* and *review* articles, which cover a great range of topics including neuroscience, molecular genetics, biochemistry, psychology, and ecology, we publish a number of *commentaries* from professors that provide research highlights, insights to a career in science and research opportunities, as well as two *letters* that are not life science in nature but give fresh perspectives on other disciplines. For the first time, we have added a *News* section to update our readers on fresh new scientific discoveries, such as the identification of the gene responsible for neuronal aging, and advances in cancer immunotherapy.

Also new to this issue, we have set up four monetary prizes (two Best Research Article Awards for \$600 each, and two Best Review Article Awards for \$400 each) with the funding support from the Natural Sciences and Engineering Research Council (NSERC). Our faculty advisors have rated the articles based on a list of criteria from novelty and uniqueness of research to clarity of presentation and quality of analysis (more details regarding the results and selection process can be found on our website). In addition to acknowledging high quality articles, we hope that these prizes will encourage more students to participate in research and pursue their own adventures in scientific writing.

Last but certainly not least, we would like to express our sincere appreciation to all members of the *JULS* team for their long hours, dedication and professionalism, to our faculty advisors for their expertise and guidance, and to the Faculty of Medicine and various Life Sciences departments for their financial support. It is only with this strong base of committed team members, generous supporters and readers like you, that we can continue to build *JULS* and take it to new heights.

Sincerely,

Lena Xu and Eric Wong

Editors-in-Chief, 2008-2009

NOTE: All articles in this issue as well as supplementary information are freely available online at <http://juls.sa.utoronto.ca/>. If you would like to join the *JULS* team, submit an article or have any comments or suggestions, please feel free to contact us at juls.uoft@gmail.com.