

From Emma Elder: A Letter of Gratitude to the Undergraduate Scientist

May 2024

As I finish my term as Editor-in-Chief, I reflect on the growth of *Eureka* since my time as a reviewer (yes, I started as a reviewer!) and what the future looks like for the journal. Our most recent symposium on April 30th hosted students from 7 universities across the country. Similarly, this issue of *Eureka* features 2 review and 3 research articles encompassing a broad variety of scientific disciplines from several institutions. On behalf of the Editorial Team, we could not have imagined this journal reaching students Canada-wide and making such a pronounced impact on undergraduate scientists. The enthusiasm you have for your work is what drives our student-led journal to move forward and continue to build a healthy platform to showcase undergraduate research. Our team is continually inspired by your energy and enthusiasm for research - you fuel the work we do! It would not be possible without you, the curious and engaged scientist, to create such a welcoming space for your research to shine.



Eureka was founded in 2010 by a group of passionate student researchers who recognized a gap in undergraduate science literature. Too often, undergraduate students are left out of opportunities such as publications and research conferences when involved with a laboratory. We've all heard the term "publish or perish", and unfortunately for undergraduates, the toxic and competitive environment that can develop in academia often pushes young scientists to the sidelines. There is an immense pressure for those in academia to maintain their status by continually pushing out data, which leaves little room for the mentorship of new scientists. Who has time to train an undergraduate when these pressures are on someone's shoulders?

When I first heard about *Eureka*, it gave me hope for the future of undergraduate science. It was encouraging to hear that there were students actively trying to change this narrative. Our team believes in harnessing the power of young minds, and for over 14 years we have been committed to mentoring undergraduates towards (potentially their first) publication. As editors, we feel it is our responsibility to mentor and guide every student who submits their manuscript to the journal. Our mission is to encourage undergraduate scientists to take pride in their work, continue to disseminate their knowledge of their field, and support the development of key skills and tools needed to be a successful researcher.

Additionally, we aim to provide numerous opportunities to showcase undergraduate research, including our annual symposium, cover photo contests, and student researcher spotlights. With each issue, we interview a scientist about their own experiences as an undergraduate and where their career has taken them. These individuals often discuss the difficult but rewarding paths they have taken and offer valuable advice to the next generation of scientists. I had the pleasure of

speaking with Dr. Fredrick Van Goor for this issue of the journal, and he highlighted the importance of discovering what you are passionate about first and letting the rest fall into place. I could not agree more.

Now, I can't go without mentioning that academia is really, really hard. It's easy to become discouraged. During my time in the lab, I had a 6-month period without any statistically significant results, even while performing experiments for upwards of 30 hours a week. Sometimes, it is difficult to see beyond what is directly in front of you. While it is true that I wasn't making any revolutionary breakthroughs, during that time I had the opportunity to present at 3 research conferences and became a master of the literature in my field by reading papers in between the steps of my protocols. I won't be publishing in *Nature* any time soon, but the knowledge, skills, and networking opportunities I had during my "dry spell" were invaluable. This lesson applies to many aspects of life outside our role as scientists. If there is a door that continues to close on you, it's likely a sign to look for the back entrance - it might lead you to a higher level.

Over the years, I have had the privilege of speaking with hundreds of students about their research, future career, and personal aspirations. Nothing prepares you for the moment someone tells you the impact you have made on their life. Through *Eureka*, I have heard this more times than I can count. It is truly humbling to know that my commitment to improving opportunities for my peers has made an impact on a large scale. To those I have had the pleasure of speaking to, thank you for sharing my love of scientific research.

This experience is something I will cherish for the rest of my life, and I hope my legacy continues to inspire students to be a part of the change. Although my time with *Eureka* is coming to a close, my job is not done. There is still a massive amount of work to be done to equalize the opportunities available to undergraduate students. I challenge you to work with me to be part of the change that academia needs, and that you need.

To my fellow undergraduate scientists, I leave you with these words: Your passion, curiosity, and commitment to research is making an impact in your field. You are improving our knowledge as scientists through your contributions, even at times when you may feel insignificant. Regardless of your career path, continue to take up space and stay curious.

It has been a pleasure advocating for your success.

Best wishes,

Emma Elder

Editor-in-Chief, Eureka Journal

BSc (Hons) in Physiology