table of CONTENTS

MARCH 2021

ISSUE 39

01 INTRODUCTION
02 MEDPULSE
04 MEDBULLETINS
06 PATHOPROFILE
08 MEDUSTORY
10 IWCH ABSTRACTS
12 FORUMSPACE

OPINION

- **14** The implications of uterine transplants through the sociopolitical and medical context
- **16** Evaluating the local status of minority maternal health through institutionalized disparities in Hamilton

CRITICAL REVIEW

- **18** Artificial intelligence in diagnosing lung cancer: Applications and future development
- 22 CARs on the road: Who gets a seat?
- **26** Implementing capnography for lactateenhanced qSOFA scores: Sepsis diagnosis in the EMS setting

30 INTERVIEW SPOTLIGHT**33** CONTRIBUTORS

COVER ARTIST ESRA RAKAB TOC ARTIST MANREET DHALIWAL



dear reader,

Welcome to Issue 39 of The Meducator!

From novel approaches in vaccine development to advances in diagnostic technology, this year has shown us more clearly than ever the importance of collaboration in the increasingly complex field of health sciences. As conveyed in Esra Rakab's celestial cover illustration, exploration and discovery serve as the cornerstones of scientific innovation. By learning through experience, we can make better informed decisions tomorrow from the information that we have unearthed. The COVID-19 pandemic has sparked curiosity in virology, epidemiology, and immunology, inspiring students to progress our understanding of these fields.

Editors Albert and Yiming start Issue 39 off by exploring recent health-related developments across the globe in MedPulse, highlighting the plethora of research that has continued despite limitations the pandemic poses. Following MedPulse, editors Eric and Michal tell the story of Aubrey de Grey, a biomedical gerontologist who seeks to reverse the aging process.

In Issue 39, The Meducator continues its collaboration with the International Women & Children's Health (IWCH) Conference, as well as the McMaster Health Forum. This issue's Forumspace examines the current staffing crisis in long-term care homes amidst the COVID-19 pandemic, while the IWCH abstracts explore the benefits of mHealth technologies, the impact of cannabis on female reproduction, and the relationship between menopause and mental health.

We are also excited to feature three Critical Reviews and two Opinion columns. In a critical review on computer aided diagnostics, Justin Phung highlights the current role of artificial intelligence in identifying lung cancer nodules. Meanwhile, Katherine Taplin and Preetama Badyal examine the novel use of CAR T-cells in treating relapsed and refractory hematopoietic cancers. Transitioning towards a clinical context, Donny Li, Jeffrey Sun and Lucy Zhao evaluate the application of capnography devices when screening for sepsis. Editors Aisling and Jeffrey investigate the considerations that must be taken with the standardization of uterine transplants. Finally, Jeffrey also emphasizes the institutional disparities in Hamilton which influence minority maternal health.

This issue was the product of close collaboration between all members of our talented and passionate staff. We cannot express enough gratitude towards our hardworking team, the supportive McMaster community, and you, our engaged readers. We would also like to give special thanks to our executive team, Aaron, Catherine, David, Michal, Peri, Shadi, Sophie, Wendy, and Zahra, for their incredible student leadership. As this academic year comes to an end, we would like to extend a warm welcome to the incoming Editors-in-Chief, Michal Moshkovich and Sophie Zarb. We are confident that these two will not only uphold, but elevate, The Meducator's ongoing legacy within the McMaster community.

From the both of us, thank you for joining us on this journey this past year.

All the best,



Bachelor of Health Sciences (Honours) Class of 2022



DANIEL RAYNER Bachelor of Health Sciences (Honours) Class of 2022