

# The First Eureka Translational Medicine Certificate Course for Cancers in Children and Young Adults

Course Partners, including the Eureka Institute, the Hospital for Sick Children, the Onco Institute, Princess Maxima Centrum, UMC Utrecht, Cancer Research UK, Cancer Research Horizons and the University of Toronto

## Goal

The current state of translational medicine in Canada, as elsewhere, faces significant challenges in bridging the gaps between biomedical research and clinical application. Referred to as “Valleys of Death”, these gaps see approximately 85% of biomedical research funding wasted due to inefficiencies in translating discoveries from bench to bedside<sup>1</sup>. Many research efforts remain siloed within their own disciplines and lack an understanding of the interdisciplinary collaboration required for effective translation<sup>2</sup>. Traditional MD/PhD programs, while now starting to place a greater impact on certain forms of knowledge translation, do not integrate clinical and research skills, leaving scientists ill-prepared to bring their research into clinical practice<sup>3</sup>. Furthermore, there is an absence of mentors and role models to support new investigators in navigating the regulatory, financial and commercial aspects of translational research<sup>4</sup>.

The Eureka Institute (<http://www.eurekainstitute.org/>) for Translational Medicine was founded in 2007 to address the growing need for an international network that trains and supports translational scientists. Over the past decade, the Eureka Institute has worked to solve unmet patient needs through research advances, education, and policymaking and has now trained more than 1,000 researchers from 35 countries. Eureka courses educate participants through both formal (workshops, seminars, keynote speakers) and informal (networking opportunities) sessions that include mentoring and real-world case studies. Follow-up studies found that 86% of course participants reported that Eureka courses changed the way they approach science and enabled them to make more meaningful progress in their research<sup>3</sup>.

Building on the previous success of Eureka courses, we decided to host the very first Eureka Translational Medicine course in Canada focused specifically on the topic of cancers in children and young adults. This course, held in collaboration with the Eureka Institute, the University of Toronto Cancer Research UK, UMC Utrecht, the Princess Maxima Centrum and the Onco Institute, aimed to help researchers learn how to bring their work from the bench to bedside and emerge from the translational “fog of uncertainty.”

## Objectives

1. To equip researchers and clinicians in Canada and abroad with the skills and competencies necessary for translational medicine.
2. To develop cross-disciplinary collaborative networks, both within Canada and internationally.
3. To improve practical application of research findings.
4. To enhance participant competency in patient/survivor and family centered research.
5. To improve the speed and efficiency with which new therapies are developed and implemented.

## Study Method

- The course was delivered over four days (April 30-May 3, 2025) in Toronto.
- Curriculum included lectures, small-group discussions, case-based learning, mentorship circles, and immersive sessions with persons with lived experience (PWLE)
- Faculty included clinicians, scientists, regulatory experts, industry partners, and patient advocates.
- 32 international students were invited to attend
- Evaluation occurred by an anonymous online survey administered following course completion through Survey Monkey.
- Participants were asked to rank each course session from 1 (poor) to 5 (excellent).
- Participants were also invited to give qualitative feedback about their perceptions and experiences during the course.

## Results

- A total of 29 students and 24 faculty members joined the course.
- The student cohort was international, and included 10 participants from Canada (Toronto, Alberta, Quebec), 5 from the UK, 5 from the Netherlands, 5 from Germany, 2 from Sweden, and 2 from the United States.
- Students came from different career stages, although most were early to mid-career level professionals working in the field of pediatric oncology.
- Faculty came from Canada, the Netherlands, the UK, the United States, Italy and Singapore.
- In total, 21/29 students responded to the anonymous survey distributed at the end of the course. Overall, individual course sessions were rated highly (median score: 4.21/5), with all falling between “Good” and “Excellent.” The Advocacy, mentorship, case study and regulatory sessions received particularly strong feedback (Figure 1).
- Qualitative feedback noted that participants left the course with strengthened confidence in pursuing collaborations, increased awareness of patient needs, a clearer understanding of translational pathways, and renewed purpose in aligning their research with unmet clinical needs.
- Several students noted that they would prefer fewer keynote sessions in the future, and more focus on regulatory issues and EDI discussions.

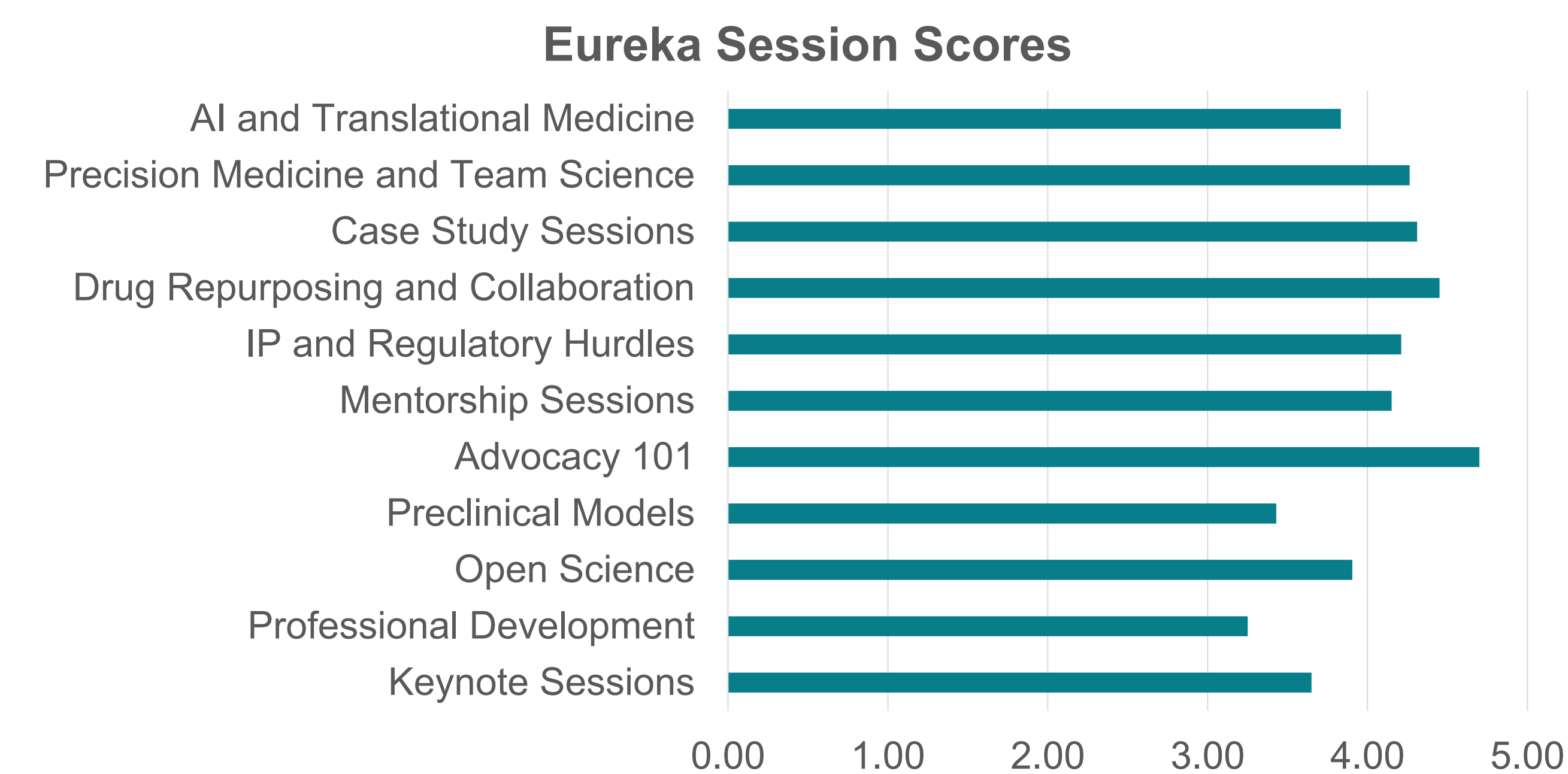


Figure 1. Average student evaluation for each category of Eureka curriculum session. Students were asked to rank each session between 1 and 5 (Poor, Fair, Good, Very Good, Excellent). The average for each session type is reported above.



Figure 2. A case study session at the First Eureka Translational Medicine Course for Cancers in Children and Young Adults. These sessions are led by faculty, industry leaders, and PWLE.



Figure 3. Group Photo of Participants and Faculty from the 2025 Eureka Translational Medicine Course

## Impact/Outcome

- Strengthened international research capacity by training 29 international early-to-mid career investigators in translational medicine skills, including 10 Canadians
- Enhanced collaboration across Canada (Ontario, Alberta, Quebec) and internationally, improving connections between clinicians, scientists, and trainees.
- Created lasting mentorship networks, providing access to senior Canadian leaders and international faculty for long-term career development.
- Increased the integration of patient voices into Canadian research through PWLE-led sessions.
- Expanded international linkages, providing Canadian participants with access to global collaborators
- Promoted equity, diversity, and inclusion to ensure future research better reflects diverse patient needs.
- Improved participant ability to translate discoveries into clinical practice, helping Canadian researchers better navigate regulatory pathways, clinical trial design, and patient-centered research.

## References

- (1) Macleod et al. (2014). The Lancet, 383(9912), 101-104; (2) Clay et al. (2019). Frontiers in Medicine, 6; (3) Weggemans et al (2018). Frontiers in Medicine, 5. (4) Hall et al. (2017). Academic Medicine, 92(10), 1382-1389