

Suraj Bansal

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EDUCATION

University of Ottawa, Medical Doctor (MD) Candidate

Ottawa, ON | Expected Graduation May 2028

Professional Development: ASE 5909 Applied Point-of-Care Ultrasound and Anatomy

Preclinical Electives: Cardiac Anesthesia, Critical Care Unit, Pediatric Hematology and Oncology, Emergency Medicine, Medical Oncology, General Surgery, Orthopedic Surgery, Urology, Infectious Diseases, Rheumatology, Family Medicine

McMaster University, Bachelor of Health Sciences (BHSc) 3.96/4.00 GPA

Hamilton, ON | Class of 2024

PROFESSIONAL EXPERIENCE

John Dick Lab, Princess Margaret Cancer Center, UHN, Research Student

Toronto, ON | September 2020 – Present

- Built a cloud-powered bioinformatics pipeline for automated transcriptomic meta-analysis of 40 bulk- and single-cell RNA-seq datasets to streamline target characterization in AML (currently used in 12 external collaborations across 8 labs)
- Performed single-cell transcriptomic analysis of the tumor micro-environment in MC38 mouse models of colorectal cancer treated with immune checkpoint blockade, in partnership with clinician-scientists at the German Cancer Research Centre
- Spearheaded a literature screen to identify and re-analyze 95 preclinical RNA-seq studies using gene expression deconvolution to quantify interpatient heterogeneity in drug response and predict clinical responses to treatment in AML

Hamilton Social Medicine Response Team (HAMsMART), Research Student

Hamilton, ON | September 2022 – Present

- Conducted patient recruitment, chart review, and reflexive thematic analysis for a primary care-embedded safer supply program for prescribing pharmaceutical-grade opioid alternatives to people with treatment-refractory opioid use disorder
- Spearheaded study recruitment, reflexive thematic analysis, statistical analysis, and knowledge translation for a mixed methods study evaluating the health of 20 people who are service restricted from emergency homeless shelters in Hamilton

Center for Addiction and Mental Health (CAMH), National Youth Advisor

Toronto, ON | September 2022 – Present

- Longitudinally advised the development of various mental health and substance use policies, systems, and services
- Co-created a trauma-informed tool to evaluate patient and public engagement in health sciences research nationwide

LEADERSHIP AND VOLUNTEERING EXPERIENCE

The Hamilton Homelessness Mortality Project, Project Co-Lead

Hamilton, ON | September 2022 – Present

- Conducted a quarterly data collection and statistical analysis of mortality of people experiencing homelessness in Hamilton; featured in 16 provincial and national news articles (e.g. Globe and Mail, CBC News, Global News, Hamilton Spectator).

The Meducator Undergraduate Health Sciences Journal, Editor-in-Chief

Hamilton, ON | September 2021 – May 2024

- Managed a \$10,000 budget and oversaw 7 subteams consisting of 90 members to lead bi-annual publication efforts
- Initiated and led Canada's first collaborative undergraduate publication with McGill Science Undergraduate Journal
- Grew an academic writing mentorship program (50 students) with professor-run workshops and end-stage publication

National Council of Undergraduate Academia, Founding Chairman

Canada | February 2023– May 2024

- Liaised with 15 student-run Undergraduate research journals to launch a national platform for promoting inter-journal collaboration and participating in themed discussions (e.g. optimizing editorial workflows) at bimonthly meetings.

McMaster University President's Advisory Committee, R3 Member

Hamilton, ON | September 2022 – May 2024

- Contributed to the Race, Racialization and Racism Working Group (R3) to identify and address issues affecting BIPOC communities within the University, and the broader McMaster community to advise the development of anti-racism policy.

Keeping Six — Hamilton Harm Reduction Action League, Volunteer

Hamilton, ON | September 2022 – May 2024

- Provided weekly street outreach to 20+ homeless people by engaging in 1:1 conversation, distributing healthcare, harm reduction, and hygiene supplies, and connecting people to local housing and employment resources
- Assisted with patient intake and shadowed physician-patient consultations at the Hamilton safer opioid supply clinic

York Region Presidents' Council, Prime Minister

York Region, ON | September 2018 – June 2021

- Managed a \$30,000 portfolio and led 10 executives in launching a bi-annual mental health conference and monthly meetings attended by 500+ students from 33 YRDSB secondary schools (increased attendance by 1,500% across 3 years)
- Launched weekly symposiums on improving education delivery and student wellbeing during COVID-19 (300 attendees)

RESEARCH PUBLICATIONS

Accepted Manuscripts

Andy G.X. Zeng, **Suraj Bansal (2nd)**, ... John E. Dick. A cellular hierarchy framework for understanding heterogeneity and predicting drug response in Acute Myeloid Leukemia. (In Press). *Nature Medicine*. DOI: 10.1038/s41591-022-01819-x.

Helena Boutzen, ... **Suraj Bansal (4th)**, ... John E. Dick. Identification of leukemia stem cell subsets with distinct transcriptional, epigenetic and functional properties. (In Press). *Leukemia*. DOI: 10.1038/s41375-024-02358-9.

Stefano Comazzetto, ... **Suraj Bansal (8th)**, ... Sean J Morrison. Ascorbate deficiency increases quiescence and self-renewal in hematopoietic stem cells and multipotent progenitors. (In Press). *Blood*. DOI: 10.1182/blood.2024024769.

Joana Araújo, ... **Suraj Bansal (6th)**, ... John E. Dick. FLT3 is genetically essential for ITD-mutated leukemic stem cells but dispensable for human HSCs. (In Press). *Blood*. DOI: 10.1182/blood.2024025886.

Andy G.X. Zeng, ... **Suraj Bansal (5th)**, ... John E. Dick. Single-cell transcriptional atlas of human hematopoiesis reveals genetic and hierarchy-based determinants of aberrant AML differentiation. *Blood Cancer Discovery*. DOI: 10.1158/2643-3230.BCD-24-0342.

Manuscripts Under Review

Suraj Bansal, Stephanie Di Pelino, ... Claire Bodkin. Nowhere to Go: A parallel convergent mixed methods study examining the health of people who experience emergency shelter service restrictions. *BMJ Public Health*. (1st revisions)

Robert Vanner, **Suraj Bansal (2nd)**, ... John E. Dick. TET2-mutant Clonal Hematopoiesis Reprograms the Tumor Microenvironment to Promote Immunotherapy Response. *Cancer Research*. (1st Revisions)

David Kealy, **Suraj Bansal (2nd)**, ... Katherine S. Bridge. JAK2V617F reprograms Hypoxia Inducible Factor-1 to induce a non-canonical 1 hypoxia regulon in myeloproliferative neoplasms. *Leukemia*. (1st revisions)

Tianyi Ling, ... **Suraj Bansal (10th)**, ... Courtney L. Jones. Glutaredoxin 2 mediated protein deglutathionylation is essential for leukemia survival through mitochondrial permeability transition pore regulation. *Nature Cancer*. (1st revisions)

Jessie JF Medeiros, ... **Suraj Bansal (5th)**, ... Vikas Gupta. A Stem and Progenitor Cell.-Derived Gene Expression Signature is Prognostic for Survival in Myelofibrosis. *Journal of Clinical Oncology*.

Grace Egan, ... **Suraj Bansal (12th)**, ... Aaron D. Schimmer. Ribosome biogenesis and its regulation by the exportin, CSE1L, are selective dependencies in childhood and young adult acute myeloid leukemia. *Nature Cancer*.

Amanda Tajik, ... **Suraj Bansal (17th)**, ... Kristin Hope. Stress Granules Underlie Acute Myeloid Leukemia Stem Cell Survival and Stress Adaptation. *Cancer Discovery*.

Select Oral and Poster Presentations

Suraj Bansal, Gessie Stearns, ... Claire Bodkin. A statistical analysis of mortality in people experiencing homelessness in Hamilton. *The Ontario Public Health Convention*.

Suraj Bansal, David Chen, ... John E. Dick. ATLAS-AML: An automated bioinformatics pipeline for target characterization in acute myeloid leukemia. *66th American Society for Hematology Annual Meeting and Exposition*.

Suraj Bansal, Andy G.X. Zeng, ... John E. Dick. ATLAS-AML: An automated bioinformatics pipeline for target characterization in acute myeloid leukemia. *International Society for Experimental Hematology 52nd Annual Scientific Meeting*.

SELECT HONOURS AND AWARDS

Recipient , American Society of Hematology HONORS Award (\$7000), USA	2025
Recipient , American Society of Hematology Abstract Achievement Award (\$500), USA	2024
Recipient (1 of 1) , McMaster Chancellor’s Gold Medal, Hamilton, ON	2024
Recipient , McMaster Partnered in Teaching and Learning Digital Seed Grant (\$4,000), Hamilton, ON	2024
Recipient (1 of 16) , UofT Molecular Genetics Undergraduate Research Opportunity Program (\$5,625), Toronto, ON	2024
2x Recipient (1 of 1) , The Bachelor of Health Sciences Program Scholarship (\$2,500), Hamilton, ON	2023, 2024
Recipient (1 of 20) , UofT T-CAIREM AI in Medicine Summer Research Studentship (\$7,200), Toronto, ON	2022
Recipient (1 of 1) , York Region Portraits of Giving Young Adult Honoree (\$2,500), York Region, ON	2022
Recipient (1 of 1) , Ontario Public Schools' Association Jack A. MacDonald Award of Merit (\$500), ON	2021
Recipient (1 of 1) , Ontario Student Voice Award: Entrepreneurship Category (\$1,000), ON	2021

SKILLS & INTERESTS

Languages and Libraries: Python, R, Javascript, SQL, React, Keras, Tensorflow, ScanPy, Seurat, RShiny, Pandas, Scikit-learn

Interests and Hobbies: Machine Learning, Self-Driving Cars, Café-Hopping, Hockey, Food Culture, Squash, Acoustic Guitar, Golf