BIOGRAPHICAL SKETCH

NAME: Zadeh, Gelareh

eRA COMMONS USER NAME (credential, e.g., agency login): GZADEH

POSITION TITLE: Professor of Neurosurgery

EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
The University of Manitoba, Winnipeg	BSc	05/1992	Microbiology
The University of Manitoba, Winnipeg	BSc	09/1994	Anatomy
The University of Manitoba, Winnipeg	MD	06/1996	Medicine
University of Toronto, Toronto	FRCS(C)	06/2006	Neurosurgery
University of Toronto, Toronto	PhD	06/2006	Clinician Investigator
University Health Network, Toronto	Neurosurgery Fellow	07/2006	Radiosurgery Training, Neurosurgery, Gamma Knife
University of Toronto, Toronto	PhD	12/2006	Brain Tumor Angiogenesis
University College London, London, England	Fellow	06/2007	Radiation Oncology/ Radiobiology
University of Toronto, Toronto	Clinician Scientist Fellow	09/2011	Neurosurgery

A. Personal Statement

I am the Chair for the Department of Neurosurgery, Mayo Clinic. Formerly, I was a Professor of Neurosurgery, Division of Neurosurgery, University of Toronto and a Senior Scientist at Princess Margaret Research Institute and previously held leadership roles, including Medical Director and Head of Surgical Oncology, at University Health Network. I was the President of Society for Neuro-Oncology and am currently the Editor-in-Chief of *Neuro-Oncology Advances*. My vision has been to build a career focused on translation research in neuro-oncology together with a multidisciplinary brain tumor surgery practice. The specific goal of my research is to gain a better understanding of the molecular regulators of and establish the genomic/epigenomic landscape of neuronal tumors in hopes to identify biomarkers of response to therapy in addition to new therapeutic targets. A branch of my research also focuses on alterations in tumor microenvironment as related to response to therapy and recurrence, in particular metabolic and hypoxic adaptations. Additionally, I am a valued member of the Mayo Clinic Comprehensive Cancer Center Research Program for Cancer Cell Genomics, Signaling, and Metastasis.

Ongoing and Recently Completed Projects

The Brain Tumor Charity
Zadeh (PI)
12/12//2024-12/11/2026
Decoding the immunological landscape of meningioma to identify new treatment targets.

Charlie Teo Foundation, funding brain cancer research
Zadeh (PI)
12/12//2024-12/11/2026
Exploring the landscape of Hypoxia in GBM Tumor Microenvironment at the Spatial and Single Cell Lineage level

Cancer Research Society (CRS)
Zadeh/Bunda (MPI)
09/01/2024-08/31/2026
Exploring the Role of Capicua (CIC) in the Resistance Mechanisms of MEK/ERK Inhibitors in Glioblastoma

Canadian Institute of Health Research (CIHR)
Zadeh/Sahm/Vik-Mo/Danyeli (MPI)
09/01/2024-03/31/2027
Detection, Classification, Characterization and Treatment Monitoring of Tumors by Accessible Epigenetic Classification

Ontario Institute for Cancer Research (OICR)
Zadeh (PI)
04/01/2024-03/31/2027
Cell-free circulating tumour DNA methylation as a comprehensive biomarker to predict tumour behaviour and response to therapy in central nervous system tumours

United States Army Department Of Defense
Zadeh (PI)
06/01/2024-05/31/2026
Lineage Tracing in Malignant Peripheral Nerve Sheath Tumors and Plexiform Neurofibromas to Assess Tumoral Heterogeneity and Mechanisms of Drug Resistance

V Foundation, Victory Over Cancer
Zadeh (PI)
02/15/2024-02/15/2028
Building Algorithms to Predict Response to Radiation in Meningiomas using Tumor and Biofluid Biomarkers

American Brain Tumor Association (ABTA)
Zadeh/Gaite (MPI)
12/21/2023- 12/20/2025
Epigenetic evolution and plasticity of glioma cell states

Johns Hopkins University School of Medicine, NTAP
Zadeh/Mansouri (MPI)
07/01/2023-06/30/2026
Uncovering the molecular landscape of cutaneous neurofibromas

Canadian Cancer Society (CCS) – Breakthrough-Team Grant
Zadeh (PI)
01/01/2023-12/31/2027
Developing a comprehensive strategy to implement predictive and targetable biomarkers of primary and metastatic brain tumors

Canadian Institute of Health Research (CIHR)
Zadeh (PI)
10/01/2022-09-30-2027
Uncovering the molecular biomarkers of radiation responsiveness in meningiomas

National Institute of Health
Zadeh/De Carvalho (MPI)
04/01/2022-03/31/2027
Establishing the clinical utility of cell-free tumor DNA methylation profiling as a reliable liquid biopsy approach in brain tumors

Canadian Institute of Health Research (CIHR)
Zadeh (PI)
04/01/2021-03/31/2026
Liquid biopsy-based DNA methylation profiling for improved diagnosis and prognostication of primary and metastatic

CNS tumor

Canadian Institute of Health Research (CIHR)
Zadeh (PI)
10/01/2020-09/30/2026
Establishing the epigenetic drivers of aggressive behaviour in meningiomas

The Brain Tumor Charity, UK
Zadeh (PI)
09/01/2020-12/31/2025
Establishing novel predictive and non-invasive epigenetic biomarkers to transform meningioma management

Terry Fox Research Institute (TFRI)
Zadeh (PI)
07/01/2019-06/30/2027
Genomic and Epigenomic Drivers of Hypoxia tolerance in Glioblastoma

Canadian Institute of Health Research (CIHR)
Zadeh (PI)
10/01/2018-03/31/2026
Understanding the mechanisms of treatment response in glioblastoma

Canadian Institute of Health Research (CIHR), Transition in Care (TIC)
Zadeh (PI)
04/01/2019-03/31/2026
Neurosurgical transition e-Program (Neuro-STEP): Pilot evaluation of an e-Health program to improve the transition of neurosurgical patients from remote locations to specialist neurosurgical care

B. Positions, Scientific Appointments, and Honors

Positions and Scientific Appointments

2025-Present	Chair, Department of Neurologic Surgery, Mayo Clinic, Rochester, MN
2025-Present	Professor & Clinician Investigator of Neurosurgery, Mayo Clinic College of Medicine and Science, William J and Charles H Mayo Professor I, Rochester, MN
2025-Present	Affiliated Senior Scientist, Princess Margaret Cancer Research Institute, University Health Network
2025-Present	Curtesy Staff, Division of Neurosurgery, Department of Surgery, University Health Network
2020-2024	Head, Division of Neurosurgery, Toronto Western Hospital, University Health Network, Toronto, Ontario, Canada
2020	President, Society for Neuro-oncology (SNO)
2019-2024	Professor, (Clinician Scientist), Division of Neurosurgery, Department of Surgery, University of Toronto, Toronto Western Hospital, Toronto, Ontario, Canada
2019-2024	Senior Scientist, Princess Margaret Cancer Research Institute/Ontario Cancer Institute, Toronto, Ontario, Canada
2019-2022	Appointed member of the Research Committee for North American Skull Base Society (NASBS)
2018-Present	Editor-in-chief, Neuro-oncology Advances (Journal of SNO)
2017-2024	Medical Director, Krembil Neuroscience Centre, Toronto Western Hospital, University Heath Network, Toronto, Canada
2017-2019	Elected Vice President, SNO
2016-2022	Scientific Chair, SNO and Consortium of Meningioma
2016-Present	Member of the Scientific Organizing Committee, North American Skull Base Society
2016-Present	Member at Large, North American Skull Base Society
2016	Scientific Chair, American Association of Neurological Surgeons
2016-2024	Full Member, Institute of Medical Science Graduate, University of Toronto, Toronto, Ontario, Canada
2016-2020	Head, Division of Surgical Oncology, Department of Surgery, University Health Network, Ontario Canada
2015-Present	Chair and Organizer, World Federation of Neurosurgical Societies

2015-Present	Scientific Co-Chair of the SCIDOT joint conference with SNO, Society for Neuro-Oncology
2015-Present	Scientific Meeting Chair, SNO
2015-Present	Chair of the SNO International Outreach Committee, Society for Neuro-oncology
2015-Present	Member of the Examination Committee, Royal College of Physicians and Surgeons of Canada
2015-Present	Executive Member, International Gamma Knife Research Foundation (IGKRF)
2015-2024	Chair, Research, Faculty of Medicine, Wilkins Family Brain Tumor Research, Toronto, Ontario, Canada
2015-2019	Scientific Co-chair, SNO
2015-2019	Elected Secretary/Treasurer, SNO
2015-2016	Scientific Organizing Committee Member, TFRI 2016 ASM Scientific Organizing Committee
2014-Present	Scientific Meeting Chair, SNO
2014-2019	Associate Professor, (Clinician Scientist), Division of Neurosurgery, Department of Surgery, University of Toronto, Toronto Western Hospital, Toronto, Ontario, Canada
2013-Present	Member, Society of University Neurosurgeons (SUN)
2013-Present	Co-chair, City Wide Brain Tumor Biobank
2013-2019	Scientist, Cancer Biology, Faculty of Medicine, Ontario Cancer Institute, Toronto, Ontario, Canada
2009-2011	CIHR Clinician Scientist, Phase I-Princess Margaret Cancer Centre, University of Toronto
2008-2024	Consultant Neurosurgeon, Division of Neurosurgery, Department of Surgery, Toronto Western Hospital, Toronto, Canada
2008-2024	Scientist, BTRC, University of Toronto, Brain Tumour Research Centre, Toronto, Ontario, Canada
2008-2014	Assistant Professor (Clinician Scientist), Division of Neurosurgery, Department of Surgery, University of Toronto, Toronto, Ontario, Canada
2006-2008	Lead Neurosurgeon, Neuro-oncology, Brain Tumour Unit, University College London Hospital, National Hospital for Neurology and Neurosurgery

Honors

2024	Recipient of the 2024 John R. Ohlfest Memorial Lecture award, Brain Tumor Program, Neuro-Oncology Innovation Challenge, Masonic Cancer Center, University of Minnesota
2023	Recipient of the 2023 Canada Gairdner Momentum Award - Gairdner Awards Laureates - Gairdner Foundation
2023	Grant award announced at the NHL All-Star Game in Toronto, First Research Grant Through Hockey Fights Cancer Powered by the V Foundation, a US cancer charity.
2023	Honored as the 20th Bittner Lecturer at the 2023 AANA Annual Meeting.
2021	Recipient of the 2021 Ab Guha Award, AANS/CNS Section on Tumors and Society of Neuro-Oncology**.**
2021	Recipient of the Top 25 Women of Influence award, recognize the extraordinary accomplishments of the Canada's diverse women role models.
2018	Mona Gauthier Research Award, Princess Margaret Cancer Research Institute
2018	William Rawls Prize, Canadian Cancer Society Excellence in Research Award
2015	American Brain Tumor Association Young Investigator Award, American Association of Neurological Surgeons (AANS) Prize/Award
2015	Alan Hudson Teaching Award, Department of Surgery, Faculty of Medicine, University of Toronto, Canada
2014	Bernard Langer Surgeon-Scientist Award, University of Toronto, Toronto, Ontario, Canada. (Research Award)
2012	Excellence in Adult Translational Research, Principal Author, Society for Neuro-Oncology, United States. (Research Award, Specialty: Neuro-oncology) Best Abstract. Presented at Society of Neuro-oncology Annual Meeting
2012	2013 PAIRO Resident Advocate Award, Residents and Interns Association of Ontario Distinction, Ontario, Canada. (Distinction)
2011	Top Rated Abstract, American Association of Neurology, Honolulu, Hawaii. (Research Award)
2010	Annual Clinician Scientist Award, American Society of Therapeutic Radiation and Oncology (ASTRO), San Diego, California. (Research Award) Received at Annual Meeting, Oct 31-Nov4, 2010.

2010 “Best of the Best” Resident Education Abstract Award, American Society of Therapeutic Radiation and Oncology, San Diego, California. (Research Award) Received at 2010 ASTRO Annual Meeting, Oct 31-Nov4, 2010.

2008 Senior Lecturer, Higher Education Funding Council for England, United Kingdom. (Research Award) Five-year Clinician-Scientist Salary Support, Total of 45 given in UK annually Declined, Due to return to University of Toronto. Total Amount: 500,000 GBP

C. Contributions to Science

1. **I am clinician-scientist neurosurgeon with a dedicated career focus in neuro-oncology:** My goal has been to create a multifaceted translational research program in neuro-oncology. I have a specific interest in management of Meningiomas, Neurofibromatosis and specifically tumors associated with NF1/NF2 and Schwannomatosis. I have an independent peer- review funded research laboratory with resources, tools and expertise necessary for a robust multifaceted investigation of brain tumor research. Most recently through close collaborative partnership I have established research expertise to perform integrative genomic/epigenomic analysis of meningiomas, NF related and other CNS tumors. As an example we have completed a project profiling 120 schwannomas, using DNA and RNA sequencing, identifying novel recurrent mutations beyond the known NF2 mutations and most notably a novel fusion protein SH3PXD2A created by a balanced chromosomal inversion on 10q, published in *Nature Genetics*. Similar mulit-omics research in radiation induced meningiomas published in *Nature Communications*. I have built key resources pivotal to the success of our research program. A centralized brain tumor biobank, with >5000 fresh-frozen and clinically annotated tumor/matched normal samples and use fresh tumor tissue to routinely generate glioma stem cell cultures as a research tool and collaborative resource. The biobank provides key resources for our own research team and positions us optimally for leading on a number of consortia in brain tumor programs nationally/internationally. I have established and lead two large scale international consortiums to facilitate sample collection and collaborative research: International Consortium on Meningiomas and Schwannomatosis Consortium. I have built a robust surgical trials unit to ensure streamline processes for rapid translation of research findings to clinical studies.

   a. Gui C, Wang JZ, Patil V, Landry AP, Singh O, Castelo-Branco P, Tabori U, Aldape K, Behling F, Barnholtz-Sloan JS, Horbinski C, Tabatabai G, Ajisebutu A, Liu J, Patel Z, Yakubov R, Kaloti R, Ellenbogen Y, Wilson C, Cohen-Gadol A, Tatagiba M, Holland EC, Sloan AE, Chotai S, Chambless LB, Gao A, Makarenko S, Yip S, Nassiri F*, **Zadeh G***, and The International Consortium on Meningiomas (ICOM)†; "Analysis of TERT association with clinical outcome in meningiomas: a multi-institutional cohort study"; Lancet Oncol. 2025 Sep;26(9):1191-1203. doi: 10.1016/S1470-2045(25)00267-0. PMID: 40907516. **Senior Responsible Author**
   b. Nassiri F, Patil V, Yefet LS, Singh O, Liu J, Dang RMA, Yamaguchi TN, Daras M, Cloughesy TF, Colman H, Gomez-Manzano C, Lang FF…. **Zadeh G,**.; "Author Correction: Oncolytic DNX-2401 virotherapy plus pembrolizumab in recurrent glioblastoma: a phase 1/2 trial"; **Nat Med**. 2025 Jul 21. doi: 10.1038/s41591-025-03895-1. **Senior Responsible Author.**
   c. Zuccato JA, Y Mamatjan, Nassiri F…,**Zadeh G**; “Prediction of brain metastasis development with DNA methylation signatures” **Nature Medicine**; Oct 08, 2024. PMID: 39379704; **Senior Responsible Author**
   d. Wang JZ, Patil V, Landry AP…, **Zadeh G**; Molecular classification to refine surgical and radiotherapeutic decision-making in meningioma; **Nature Medicine**; Jul 01, 2024; https://doi.org/10.1038/s41591-024-03167-4; **Senior Responsible Author**
   e. Suppiah S, Mansouri S, Mamatjan Y, **Zadeh G**; 'Multiplatform molecular profiling uncovers two subgroups of malignant peripheral nerve sheath tumors with distinct therapeutic vulnerabilities'; **Nat Commun**. 2023 May 10;14(1):2696. doi: 10.1038/s41467- 023-38432-6. PMID: 37164978; **Senior Responsible Author.**

Complete List of Published Work in My Bibliography:
https://www.ncbi.nlm.nih.gov/pubmed/?term=Zadeh+G