A. IDENTIFICATION

Arezu Jahani-Asl, M.Sc., Ph.D.
Canada Research Chair (CRC II) in Neurobiology of Disease
University of Ottawa Brain and Mind Institute
Associate Professor, Department of Cellular and Molecular Medicine
Affiliate Investigator, Ottawa Hospital Research Institute (OHRI)
https://med.uottawa.ca/cellular-molecular/people/jahani-asl-arezu

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eLife Board of Reviewing Editors
https://elifesciences.org

B. EDUCATION

1996-2000	**Bachelor of Science** Basic Medical Sciences (with distinction) University of Toronto Toronto, Canada
2002-2005	**Master of Science** Cellular and Molecular Medicine University of Ottawa Ottawa, Canada
2005- 2009	**Doctor of Philosophy** Neuroscience University of Ottawa Ottawa, Canada
2009-2015	**Postdoctoral Fellow** Neuroscience Harvard Medical School

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C. APPOINTMENTS

2022-Present	**Affiliate Investigator** Cancer Therapeutics Program (CPT) &

Regenerative Medicine Program
Ottawa Hospital Research Institute (OHRI)

May 2021-Present **Associate Professor**
Department of Cellular and Molecular Medicine
Faculty of Medicine
University Of Ottawa
Ottawa, Canada

Feb. 2021 **Associate Professor**
Gerald Bronfman Department of Oncology & Integrated Program in Neuroscience (IPN)
Faculty of Medicine
McGill University
Montreal, Canada

2015-2021 **Assistant Professor**
Gerald Bronfman Department of Oncology & Integrated Program in Neuroscience (IPN)
Faculty of Medicine
McGill University
Montreal, Canada

2017-Present **Affiliate Member**
Division of Experimental Medicine
McGill University

2015-2021 **Principal Investigator**
Lady Davis Institute for Medical Research, Jewish General Hospital & McGill University
Montreal, Canada

D. SPECIAL HONORS, AWARDS, RECOGNITION

2021-2026 Canada Research Chair (Tier II), Neurobiology of Disease

2021-2025 Fonds de Recherche du Québec (FRQS) Salary Award (Junior II)

2017-2021 Fonds de Recherche du Québec (FRQS) Investigator Salary Award (Junior I)

2016 Canadian Cancer Society Best Abstract Travel Award, Gordon Research Conference meeting, Cancer Genetics and Epigenetics, Italy

2015 Careers in Cancer Research Development Program (CCRDP) New Principal Investigator Award; In recognition of outstanding research as a new principle

	investigator meeting participant, Canadian Institutes of Health Research - Institute of Cancer Research (CIHR - ICR)
2014	OHRI Best Postdoctoral Presentation Award, 1st Place, Ottawa, Ontario
2014	Stem Cell Network Trainee Award, Till & McCulloch Stem Cell meeting
2009-2012	CIHR Postdoctoral Trainee Award (Salary Award)
2005-2008	CIHR Doctorate Research Award (Salary Award)
2006	University of Ottawa National Doctorate Excellence Scholarship
2006	Heart and Stroke Foundation of Canada, Young Investigators Award
2006	Canadian Stroke Network Trainee Award, CSN Annual General Meeting
2006	University of Ottawa Travel Award, GRC meeting: Mitochondria and Chloroplast, Oxford, UK
2006	University of Ottawa Graduate Trainee Certificate of Merit, in recognition of outstanding research contribution in Ovarian Cancer
2006	PhD Seminar Presentation Award, 1st Place, Neurosciences, University of Ottawa
2005	Ontario Female Doctorate Scholarship in Biochemistry, Ministry of Education
2005	University of Ottawa Doctorate Entrance Scholarship
2004	Second Canadian Conference on Ovarian Cancer Research, Best Trainee Presentation Award, 1st Place, National recognition, Ottawa, Canada
2003	XVth international Ovarian Workshop Graduate Trainee Travel Award, Vancouver, Canada
2000	University of Toronto, Graduation with Distinction
1998	University of Toronto Dean's Honors List, in recognition of academic excellence, Toronto, Canada
1997	Golden Key National Honor Society at the University of Toronto, in recognition of scholastic achievements, Toronto, Canada

AWARDS To TRAINEES (Past 5 years)

1. 1st Prize for best presentation (2023), Dilan Rasool, Regulation of neural stem cell fate by a novel PHF6/EphR transcriptional, Annual McGill Biomedical Graduate Student Conference, McGill University, Principal Supervisor: **Jahani-Asl A**.

2. Stem Cell Network Travel Award (2023), Dilan Rasool, Synthetic Biology for Regenerative Medicine Workshop, Vancouver Canada. Principal Supervisor: **Jahani-Asl A**.

3. Till & McCulloch Meetings (TMM) Abstract Competition Award Winner (2022), Dilan Rasool, Regulation of neural stem cell fate by a novel PHF6/EphR transcriptional pathway. Principal Supervisor: **Jahani-Asl A**.

4. Stem Cell Network Travel Award (2022), Dilan Rasool, Regulation of neural stem cell fate by a novel PHF6/EphR transcriptional pathway. Principal Supervisor: **Jahani-Asl A.**

5. WiBR scholarship to Alyanna Popatia , TST program (2022), University of Ottawa, Regulation of glioma stem cell fate by HOXA5. Principal Supervisor: **Jahani-Asl A.**

6. FRQS Postdoctoral salary award, Dr. Audrey Burban (2020-2022). Co-targeting Oncostatin M receptor in combination with current standards of care for glioblastoma therapy (Application ranked 1st in the committee). Principal Supervisor: **Jahani-Asl A.**

7. Lucie Besner Travel Award for participation in CAN-ACN 2021, Dilan Rasool (2021). McGill Regenerative Medicine Network, Regulation of neural stem cell fate by a novel PHF6/EphR transcriptional pathway. Principal Supervisor: **Jahani-Asl A.**

8. 1st prize, Virtual Science Communication Contest in Brain Tumor Research to Dr. Audrey Burban. OSMR Signalling in Glioblastoma. Principal Supervisor: **Jahani-Asl A.**

9. 1st Prize for best presentation to Dilan Rasool, Annual McGill Biomedical Graduate Conference, Montreal, Quebec, Regulation of neural stem cell fate by a novel PHF6/EphR transcriptional pathway. Principal Supervisor: **Jahani-Asl A.**

10. Lucie Besner Travel Award for participation in society for neuro-oncology, Phoenix, Arizona (2019). McGill Regenerative Medicine Network, Co-targetting Oncostatin M Receptor using monoclonal antibodies in combination with present standards of care for glioblastoma. Audrey Burban, Ahmad Sharanek, **Jahani-Asl A**.

11. McGill Regenerative Medicine Network Travel Award for participation in Till & McCulloch Meetings: (2019) The function of mitochondrial OSMR in glioma stem cell respiration and resistance to therapy.
Audrey Burban and **Jahani-Asl A**.
12. McGill Regenerative Medicine Network Travel Award for participation in Till & McCulloch Meetings to Ahmad Sharanek, Regulation of glioma stem cell self-renewal and tumorigenesis by carbohydrate binding proteins (2019); Invited platform presentation Ahmad Sharanek and **Jahani-Asl A**.

13. The Mark Wainberg's Drug Discovery Award, **1st prize** presentation, 5th International Drug Discovery and Development Forum (2019), Regulation of glioma stem cell self-renewal by carbohydrate binding proteins. Ahmad Sharanek and **Jahani-Asl A**.

14. **2nd prize** poster presentation, 5th International Drug Discovery and Development Forum (2019) OSMR controls mitochondrial respiration and glioblastoma resistance to ionizing radiation. Audrey Burban and **Jahani-Asl A**. (2019)

15. Best Presentation Award, **1st place** by Matthew Laaper. OSMR upregulation of mitochondrial biogenesis and respiration in glioma stem cells (2018) 3rd International Conference on Stem Cells, Development and Cancer
Laaper M, Joyal JS, **Jahani-Asl A**

16. Best Presentation Award, by Ahmad Sharanek, Regulation of glioma stem cell self-renewal and tumorigenesis (2018). The 4th International Drug Discovery Forum
Sharanek A, Fatakdawleh I, **Jahani-Asl A**

17. Best Presentation Award, **1st place** by Ahmad Sharanek (2018). Regulation of glioma stem cell self-renewal and tumorigenesis. Stem Cell and Regenerative Medicine meeting, McGill University, Montreal. Sharanek A, Fatakdawleh I, **Jahani-Asl A**

18. 3 minutes thesis competition finalist, McGill University (2018), Matthew Laaper, OSMR upregulation of mitochondrial biogenesis and respiration in glioma stem cells.
Principal Supervisor: **Arezu Jahani-Asl**

E. TEACHING

E1. University of Ottawa Courses

UNDERGRADUATE

2022- TMM 3106; Introduction to Neurobiology
Faculty of Medicine, University of Ottawa
(6 hrs. per year)

2005-2008 ANP 1101, Introduction to General Anatomy and Physiology
Faculty of Medicine, University of Ottawa
(36 hrs. per year)

2006 Course Coordinator, ANP 1101
Introduction to General Anatomy and Physiology
Designing and Teaching ANP1101

Faculty of Medicine, University of Ottawa
(46 hrs/year)

POST-GRADUATE

2022 CMM5372, Cell Signalling and Hormone action
Faculty of Medicine, University of Ottawa

2022 CMM5341; Stem Cells
Faculty of Medicine, University of Ottawa
(4 hrs. per year)

2020 Invited lecture, CMM 5372
Cell Signalling and Hormone Action
Department of Cellular and Molecular
Faculty of Medicine, University of Ottawa

E2. McGill University Courses

UNDERGRADUATE

2019-2020 ANAT 541B, Cell and Molecular Biology of Aging
Department of Cell Anatomy and Biology
McGill University
(6 hrs./per year).

2017-2018 Genomics, Clerkship courses
Science journal club to improve basic science teaching in the medical curriculum, Department of Medicine
McGill University
3 hrs./year

POST-GRADUATE

2020-2021 PHGY 488, Stem Cell Biology
Department of Physiology, McGill University
(2 hrs./year)

2019-2021 EXMD 635, Experimental and Clinical Oncology
Department of Experimental Medicine, McGill University
(2 hrs./year)

2016-2020 EXMD 616, Molecular and Cell Biology Topics,
Department of Experimental

Medicine, McGill University,
(3 hrs. /year)

2017-2020 EXMD 502, Advanced Endocrinology,
Department of Experimental Medicine, McGill University
(2 hrs. per year)

2018-2019 NEUR 705, Responsible Research Conduct,
Integrated Program in Neuroscience, McGill
University
(4.5 hrs.)

2016-2017 HGEN 670, Advances in Human Genetics
Department of Human Genetics
(3 hrs.)

E3. STEM EDUCATION

2005-2007 Instructor, Let's Talk Science Program, Ottawa, Canada, Teaching Basic scientific concepts and demonstrating experiments to grade school students

2001-2002 Science Tutor in Classroom, Carleton District School Board, Ottawa, Canada; Introduced grade-school students to the world of science and research, Leading scientific projects for grades 2 to 6

1997-1999 Laboratory Demonstrator, Department of chemistry, University of Toronto, Canada; Designing and demonstrating the laboratory work for the Chemistry Olympiad competition

1996-1997 Teaching Assistant, University of Toronto, Department of Continuing Education, Toronto, Canada

E4. TEACHING CREDENTIALS/CERTIFFICATES

2018 Strategies to Support Active and Collaborative Learning Certificate, McGill University

2018 Feedback Strategies: Engaging Students In Dialogue Certificate, McGill University

2018 Using Peer Assessment to Make Teamwork Work Certificate, McGill University

2018 Focus on Teaching Certificate: Orientation for New McGill Supervisors, Faculty of Medicine, McGill University

2018 Personal Effectiveness: Strategies for Managing the "Tyranny" of Time Certificate, Faculty of Medicine, McGill University

2018 Tips and Tricks for Academic Advisor session, Division of Experimental Medicine, McGill University

E5. Research Trainees Supervised

Postdoctoral Trainee [n = 3]

1. Amir Hossein Mansourabadi (Oct. 2022-)
   Faculty of Medicine, University of Ottawa
   Project Description: Role of Ion channels in glioma
   Role: Principal Investigator
   Expected date of completion: Oct. 2027

2. Audrey Burban (2018- 2021)
   Lady Davis Institute for Medical Research, Jewish General Hospital and McGill University
   Project Description: OSMR Regulation of Glioblastoma Pathogenesis
   Role: Principal Investigator
   Present Position: French Institute of Health and Medical Research (INSERM)

3. Ahmad Sharanek (2017- 2021)
   Lady Davis Institute for Medical Research, Jewish General Hospital and McGill University
   Project Description: Role of LGALS1 in Glioma
   Role: Principal Supervisor
   Present Position: French Institute of Health and Medical Research (INSERM)

Doctorate [n=3]

1. Elham Mahmudian (Sept. 2021-)
   Department of Cellular and Molecular Medicine, University of Ottawa
   Project: Role of cytokines in glioblastoma pathogenesis
   Role: Principal supervisor
   Degree Expected: 2026

2. Dilan Rasool (Sept. 2019-)
   Department of Experimental Medicine, McGill University
   Visiting Scholar, University of Ottawa
   Project Description: PHF6 regulation of neurogenesis
   Role: Principal supervisor
   Degree expected: 2024

3. Darren Blackburn (In Progress)

Department of Human Genetics, McGill University
Project Description: Molecular mechanisms regulating Rhabdomyosarcoma
Role: Academic Advisor
Principal Supervisor: Dr. Vahab Soleimani

Master of Science [n =4]

1. Kamaldeep Randhawa (Sept. 2022-)
Department of Cellular and Molecular Medicine, University of Ottawa
Project Description: CLIC1 signaling in glioblastoma
Role: Principal Supervisor

2. Laura Raco (January 2021-present)
Department of Experimental Medicine, McGill University
Project Description: CLIC1 signaling in glioblastoma
Role: Principal Supervisor
Degree: In progress

3. Mehdi Haqhi (2019-2021)
Department of Experimental Medicine, McGill University
Project Description: LGALS1 signaling in glioblastoma
Role: Principle supervisor
Degree Obtained: 2021
Present Position: Research Technician, Lady Davis Institute for Medical Research

4. Mathew Lapper (September 2016), Integrated Program in Neuroscience, McGill University
Project Description: OSMR regulation of brain tumour stem cell metabolism
Role: Principal supervisor
Degreed Obtained: January 2018
Present Position: Medical School, Memorial University, Canada

Undergraduate Research Trainee [n = 10]

1. Hadeel Al Hadi (Winter 2022)
H.BSc. in Translational and Molecular Medicine
Faculty of Medicine, University of Ottawa
Project Description: Role of Ephrin Receptors in XLID
Role: Principal supervisor
Present Position: Medical School, University of Toronto

2. Alyanna Popatia (Jan 2022-Present)
H.BSc. in Translational and Molecular Medicine
Faculty of Medicine, University of Ottawa
Project Description: HOXA5 regulation in glioma stem cells
Role: Principal Supervisor
Degree: In progress

3. Wen Bo (Sam) Zhou (2019- 2020), McGill University

Project Description: Phospho-proteomic analysis of Glioma Stem Cells
Role: Principal Supervisor
Present Position: PhD Candidate, Alan Edward Centre for Research on Pain, Oral Health Sciences, McGill University

4. Claire Haumesser (January-August 2019), McGill University
Project Description: Regulation of glioma stem cell self-renewal
Role: Principal Supervisor
Present Position: Medical School, Universite' de Montreal

5. Ilia Zenkov (September 2017-January 2018), McGill University
Project Description: FACS Analysis of OSMR antibodies
Role: Principal supervisor
Present Position: Machine Learning Engineer | Cheminformatics AI and Molecular Drug Design

6. Corin Seelemann (January-April 2015), McGill University
Project Description: EGFRvIII/STAT3 signaling in glioblastoma
Role: Principal supervisor
Present Position: PhD Candidate in composite biosystems laboratory (WCBSL), University of Waterloo

7. Mira Ghaly (January-April 2015), McGill University
Project Description: Bioinformatic analysis
Role: Principal supervisor
Present position: Pharmaceutical Sciences, Odette Cancer Centre

8. Mohammad Danial Mohsin (September-December 2015), McGill University
Project Description: CRISPR models of gene editing
Role: Principal supervisor
Present Position: eClinical Project Manager, Clinical Trial Management, Axiom Real-Time Metrics, Toronto, Ontario

9. Idris Fatakdawala (September 2015-August 2017), McGill University
Project Description: ChIP-PCR analysis of STAT3 Targets
Role: Principal supervisor
Present Position: Clinical Research Coordinator (Regional Stroke Team) at Sunnybrook Hospital, Toronto, Ontario

10. Menka Suresh (September-December 2015), McGill University
Project Description: Cell Fractionation of glioma stem cells
Role: Principal supervisor
Present position: MSc Candidate, Science Communication, Stonybrook University

E6. Previous supervision of Research Trainee

2011 Caleb Young, Undergraduate Trainee

Harvard Medical School
Project: iNOS signaling in Glioblastoma
Role: Providing technical troubleshooting and, organized discussion session on data interpretation.

2006/9 - 2009/8 William Xu, Undergraduate Trainee
University of Ottawa
Project: Mitochondrial dynamics in neuronal injury
Role: Mentor
Provided technical training and supervision of his project as well as comments on presentation and thesis, co-author on Jahani-Asl et al 2011

2006/8 - 2009/8 Graduate Student Council Advisor, University of Ottawa
As an active member of graduate student committee, I assisted students on how to approach and resolve conflict as they arise in the laboratory, and to deal with daily frustration. In addition, I assisted students in finding the right laboratory for the next stage of their career. I provided feedback on their CV and applications as well as feedback on how to contact potential supervisor to pursue PhD or post-doctoral studies.

E7. Invited Lectures, Talks & Presentations

INTERNATIONAL (Past 7 years)

1. **Jahani-Asl A.** Transcriptional regulation of glioma stem cell fate (2022), Virtual e-Seminar Series on Translational Biomedical Engineering

2. Sharanek A. and **Jahani-Asl A.** Function of OSMR in mitochondrial respiration and glioblastoma resistance to therapy (2021), Virtual SNO/NCI Joint Symposium: Targeting CNS Tumor Metabolism

3. **Jahani-Asl A**. Glioblastoma Pathogenesis: Molecular Targets and Therapies (2021) Virtual Zeelamo Institute

4. **Jahani-Asl A.** Control of Mitochondrial Respiration and Resistance to Ionizing Radiation via Cytokine Receptors (2019), Advances in Biomedical Research III, Split, Croatia.

5. Sharanek A and **Jahani-Asl A.** Regulation of glioma stem cell self-renewal by carbohydrate binding proteins (2019), Society for Neuro-Oncology, Phoenix, Arizona

6. **Jahani-Asl A.** Function of OSMR in mitochondrial respiration and glioblastoma resistance to therapy (2019), Brain Tumor Research Symposium, Montreal, Canada

7. **Jahani-Asl A.** EGFRvIII requires OSMR as a co- receptor to drive glioblastoma pathogenesis (2015) Society for Neuro-Oncology San Antonio, Texas

8. **Jahani-Asl A.** EGFRvIII requires OSMR as a co-receptor to drive glioblastoma pathogenesis (2015) Bain Tumor meeting, Berlin, Germany

NATIONAL (Past 7 years)

1. **Jahani-Asl A.** Cytokine signalling in glioblastoma: A therapeutically exploitable pathway for cancer stem cells, Canadian Neuro-oncology (CNO) 2023, Ottawa, Canada

2. Rasool D and **Jahani-Asl A.** Regulation of neural stem cell fate by a novel PHF6/EphR transcriptional pathway (2022), Till & McCulloch Stem Cell meeting, Vancouver, BC

3. Rasool D and **Jahani-Asl A.** Regulation of neural stem cell fate by a novel PHF6/EphR transcriptional pathway (2021), Till & McCulloch Stem Cell meeting, Virtual

4. **Jahani-Asl A**. OSMR regulation of glioblastoma pathogenesis (2020), University of Ottawa,
Students Advancing Brain Cancer Research (SABCR) Team webinar series, Ottawa, Canada

5. **Jahani-Asl A.** Cytokine signalling in brain development and disease (2019), University of Ottawa, Ottawa, Canada

6. Sharanek A and **Jahani-Asl A.** Regulation of glioma stem cell self-renewal by carbohydrate binding proteins (2019), Till & McCulloch Stem Cell meeting, Montreal, Ontario

7. **Jahani-Asl A.** Molecular Mechanisms of Glioblastoma Pathogenesis (2016) Colloquium speaker, University of Carleton, Ottawa, Ontario

LOCAL (Past 7 years)

1. **Jahani-Asl A**. Regulation of stem cell fate in brain development and disease (2021) McGill MRM Network, virtual seminar series

2. Rasool D. and **Jahani-Asl A**. Regulation of neural stem cell fate by a novel PHF6/EphR transcriptional pathway (2021) McGill MRM Network, virtual seminar series

3. Rasool. A and **Jahani-Asl A**. Mapping PHF6 genome wide targets in the developing cortex (2021) MRM Seminar series, Lady Davis Institute for Medical Research, virtual seminar series

4. Sharanek and **Jahani-Asl A**. Regulation of glioma stem cell fate by a novel galectin1/HOXA5 transcriptional pathway (2021), McGill MRM Network, virtual seminar series

5. Sharanek A. and **Jahani-Asl A**. OSMR controls glioma stem cell respiration and confers resistance of glioblastoma to ionizing radiation (2020) Cancer Seminar series, Lady Davis Institute for Medical Research, Montreal, Qc

6. Sharanek A. and **Jahani-Asl A**. OSMR controls glioma stem cell respiration and confers resistance of glioblastoma to ionizing radiation (2020), IPN Retreat, Montreal, Canada.

7. Sharanek A. and **Jahani-Asl A**. OSMR controls mitochondrial respiration and confers the resistance of glioblastoma to ionizing radiation (2020) Montreal Neurological Institute (MNI) Brain Tumour Research Seminar Series, Montreal, Canada

8. Burban A. and **Jahani-Asl A**. The function of mitochondrial OSMR in glioma stem cell respiration and resistance to therapy (2020). MNI Brain Tumour Research Seminar Series, Montreal, Canada.

9. **Jahani-Asl A**. (Keynote), Molecular Regulation of Glioblastoma Pathogenesis (2019) Montreal Neurological Institute, Montreal, Quebec

10. Sharanak A and **Jahani-Asl A**. Regulation of glioma stem cell self-renewal and tumorigenesis by carbohydrate binding proteins (2018), MNI Brain Tumour Research Seminar Series, Montreal Canada

11. Laaper M and **Jahani-Asl A.** Regulation of neural stem cell fate decisions by mitochondrial dynamic (2018) MRM seminar series, Lady Davis Institute for Medical Research, Jewish General Hospital

12. Laaper M and **Jahani-Asl A.** Regulation of neural stem cell fate decisions by mitochondrial dynamic (2018) Cancer seminar series, Lady Davis Institute for Medical Research, Jewish General Hospital

13. Laaper M and **Jahani-Asl A.** Regulation of neural stem cell fate decisions by mitochondrial dynamic (2018) Invited seminar at the Annual Lady Davis Institute Research Day

14. Fatakdawala I and **Jahani-Asl A.** Role of LGALS1 in glioblastoma (2018) Cancer seminar series, Lady Davis Institute for Medical Research, Jewish General Hospital

15. **Jahani-Asl A.** OSMR Regulation of Glioblastoma Pathogenesis (2017) IRIC-LDI joint retreat ,Quebec, Canada

16. **Jahani-Asl A.** Control of glioblastoma tumorigenesis by feed forward cytokine signaling (2016) Seventh Annual LDI Scientific Retreat, Montreal Quebec

17. **Jahani-Asl A.** Mitochondrial dynamics in neuronal injury (2016) Aging Seminar Series, Lady Davis Institute, Montreal, Quebec

18. **Jahani-Asl A.** Control of glioblastoma tumorigenesis by feed forward cytokine signaling (2015), CIHR New Principal Investigator Meeting, Mont Gabriel, Quebec

19. **Jahani-Asl A.** Control of glioblastoma tumorigenesis by feed forward cytokine signaling (2015) Cancer Seminar Series, Jewish General Hospital, Montreal, Quebec

Invited Talks Prior to Faculty Appointment (2007-2015)

1. **Jahani-Asl A.** et al. A STAT3-OSMR feed forward mechanism drives the pathogenesis of glioblastoma (2014) Till & McCulloch Stem Cell meeting, Ottawa, Ontario

2. **Jahani-Asl A.** et al. Regulation of mitochondrial dynamics in neurodegeneration (2009) Department of Cellular and Molecular Medicine, University of Ottawa, Ottawa, Ontario.

3. **Jahani-Asl A.** et al. Regulation of mitochondrial dynamics in neurodegeneration (2009) Harvard Medical School, Department of Pathology, Boston, Massachusetts

4. **Jahani-Asl A.** et al. Role of Cdk5 and OPA1 in mitochondrial dynamics and neuronal death (2009) Harvard Medical School, Department of Cell Biology and HHMI laboratory, Boston, Massachusetts

5. **Jahani-Asl A.** et al. Regulation of mitochondrial dynamics in neurodegeneration (2009) Burnett School of Biomedical Sciences, College of Medicine, University of Central Florida, Orlando, Florida

6. **Jahani-Asl A.** et al. Mitofusin 2 protects against acute Neuronal injury (2007) Society for Neuroscience, San Diego, California

E8. THESIS EXAMINER/COMMITTEE MEMBER

1. MSc Thesis Examiner
Jingwei Chen (Fall 2022), Department of Cellular and Molecular Medicine, Faculty of Medicine, University of Ottawa
Thesis Title: Manipulating Mitochondrial Integrity in a Parkinson's Disease Model

2. Examiner, PhD Comprehensive Exam
Vanessa Jabr (Fall 2022), Department of Cellular and Molecular Medicine, Faculty of Medicine, University of Ottawa
Title: Enhancing mitochondrial integrity in Parkinson's disease models.

3. External Examiner for Doctoral Thesis
Shamini Ayyadhury (Fall 2019), Montreal Neurological Hospital, The Integrated Program In Neuroscience, McGill University
Thesis Title: Changing perspectives in glioblastoma therapeutics –
A neurodevelopmentally organized hierarchical model of glioblastoma guides the mechanistic understanding of FAM107A/DRR as a therapeutically relevant target.

4. Internal Examiner for Doctoral Thesis
Zeinab Sharifi (Winter 2019), Division of Experimental Medicine, Faculty of Medicine, McGill University
Thesis Title: Preclinical Development of Dual EGFR/DNA Targeting Agent in Glioblastoma

5. MSc Thesis Examiner
Emma Preston (2017), McGill University
Thesis Title: Relationship Between EGFR Overexpression and Response to Radiation Regimens in Patients with Newly Diagnosed GBM

6. MSc Thesis Examiner
Nicholas Anthony (2018), McGill University
Thesis Title: Identification and characterization of novel microRNA regulators of myogenesis

7. MSc Member of the thesis committee
Shaun V-Deslauriers (2017), MSc, Integrated Program in Neuroscience
McGill University

F. OTHER CONTRIBUTIONS

F1. Grant Review & Scholar Committee Member

2022-Presnet CAN New Investigator Award (**National**), 8-9 applications per year

2021-Present Michael Smith Foundation for Health Research, Biomedical Research review panel (**National**), 7-9 applications per year

2021-Present CIHR project grant-Cancer Biology and Therapy (**National**), 8-9 applications per year

2021-Present Cancer Research Society, Panel A; Cell signalling (**National**), 8-9 application per year

2022 European Science Foundation, Call for Junior and Senior Research Projects of the Research Foundation Flanders (FWO), external reviewer

2022 Lucie Besner Travel Awards, McGill Regenerative Medicine (MRM) Prizes & Awards Committee, 7-10 applications per year

2021 2021 Society for Neuro-Oncology (SNO) Basic and Translational Omics of Brain Tumors and Their Microenvironment Conference, Abstract reviewer (12 applications)

2021 CFI's John R. Evans Leaders Fund, external reviewer

2021	New Frontiers in Research Fund- Exploration (NFRF), Multidisciplinary Review Panel member for the Exploration competition, external reviewer
2019-2021	CIHR member of the "Fellowships -Post-PhD" Awards Committee, 8-10 applications per year
2020	Evaluation Committee for the HBHL Graduate Student Fellowships Program (Doctoral application), McGill University, 15 applications per year
2020	Swiss National Science Foundation, External reviewer (**International**), external reviewer
2020	Austrian Science Fund (FWF), External reviewer (**International**), external reviewer
2019-2020	New Frontiers in Research Fund- Exploration, Multidisciplinary Review Panel member for the Exploration competition, 2 applications
2019	Welcome Trust, Clinical Research Career Development Fellowship scheme (**International**), external reviewer
2018	Biotechnology and Biological Sciences Research Council (BBSRC), UK JeS Grant Review Panel (**International**), external reviewer
2018	Canadian Cancer Society, Immunology, Signalling and Stem Cell Panel I3, Young Investigator Observer Program
2018	CIHR Genetic Panel, Young Investigator Observer Program
2017	Reviewer on IPN Graduate Student Scholarship Applications, McGill University, 12 applications per year
2015-2021	LDI Ad-hoc Reviewer, Internal Grant Reviewer, 3-5 applications per year

F2. Journals (Ad hoc reviews)
McGill University
eLife (Impact factor 7.5), 4-5 reviews per year
Theranostics (Impact factor 11.6), 1 review
Journal of Extracellular Vesicles, 1 review
Oncogene (Impact factor 6.6), 1 review
Cell Reports (Impact factor 7.8), 1-2 reviews
iScience (Cell press new journal), 1 review
J Pathology (Impact factor 6.25), 1 review
Frontiers Oncology (Impact factor 4.4), 1 review
Cells (Impact factor 5.6), 1 review

Cancers (Impact factor 6.1), 1 review
Cell Death and Disease (Impact factor 5.9), 1 review

Prior to Faculty Appointment
J Neuroscience (Impact factor 6.2), 3 reviews
EMBO Rep (Impact factor 8.5), 1 review
New England Journal of Medicine (Impact factor 70), 1 review
JBC (Impact factor 4.5), 4 reviews

F3. Administrative Responsibilities

2022-2025 Member of the College of Reviewers (College)
Canadian Institute of Health Research (CIHR)
Professionalize peer review & enhance the quality of peer review at CIHR; Mentoring other reviewers; Serving in advisory roles to help with the development of programs

2022-2025 The Canadian Association for Neuroscience (CAN) nomination committee Member (**National**); The Nomination Committee reviews applications and adjudicates the CAN young investigator award, and reviews the slate of candidates for the elections to the CAN board of directors. The nominations committee can also be consulted to help expand the slate of candidates for awards and elections

2022-2025 MRM Prizes & Awards Committee, McGill University

2023 Chair, Comprehensive PhD exam, Vanessa Jabr
Department of CMM, University of Ottawa

2023 TMM Symposium evaluator
TMM 4012 / TMM 5900 Research Symposium
University of Ottawa

2023 TMM poster evaluator
Honours undergraduate program
University of Ottawa

2023 CMM Doctorate Seminar evaluator
Department of Cellular and Molecular Medicine
University of Ottawa

2022 CMM PhD seminar evaluator, University of Ottawa

2022 TMM seminar evaluator, University of Ottawa

2022 TMM Poster evaluator, University of Ottawa

2021 Society for Neuro-Oncology Abstract Reviewer for Annual Scientific Meeting, Omics

2017-2019 Abstract Reviewer platform presentations, LDI Annual retreat

2019 Pro-Dean, Neuroscience, Faculty of Medicine, McGill University. Representative of the Dean of Graduate and Postdoctoral studies and Chairing oral PhD defense of Christopher K Salmon.
Title of thesis: New Perspectives on Synaptic Development and the Tripartite Synapse

2018 Oral Presentation judge, CIHR-McGill International Drug Discovery Forum

2017-18 LDI Oral Presentation judge at the Annual LDI Scientific Retreat

2017-18 LDI electronic laboratory notebook committee

2015 LDI Annual Retreat Committee organizer, Department of Molecular and Regenerative Medicine

2009-2013 Member of Joint Committee on Status of Women (JCSW), Harvard Medical School. The committee works to facilitate and enhance the contribution of women faculty and staff at HMS and HSDM by expanding and enhancing opportunities for leadership and advancement.

2005-2009 Ottawa Health Research Institute (OHRI) trainee committee, the committee consisting of Scientists, and trainees meets every four months to discuss the concerns of the OHRI trainees.

2007-2008 VP communication, Graduate student council - University of Ottawa; Editor of CMM/NSc Biweekly newsletter, overseeing publication of CMM/NSC Biweekly

F4. Professional Societies

2019-present Member of Canadian Association for Neuroscience

2015-present Member of Society for Neuro-Oncology

2016-present Member of Society for Neuroscience

2007-2008 Member of Canadian Association for Neuroscience/Association Canadienne des Neurosciences

F5. Other Contributions

BROADCAST INTERVIEWS

2020 CTV NEWS | McGill University researchers discover way to fight brain tumours' resistance to therapy
https://www.mcgill.ca/newsroom/channels/news/ctv-news-mcgill-university-researchers-discover-way-fight-brain-tumours-resistance-therapy-323829

2020 McGill News Room, Gene targeting helps overcome the resistance of brain cancer to therapy
https://www.mcgill.ca/newsroom/channels/news/gene-targeting-helps-overcome-resistance-brain-cancer-therapy-323716

2016 Joe Schwarcz Radio Show, Hosting Arezu Jahani-Asl, McGill Office for Science and Society

2016 McGill News Room, Key mechanism identified in brain tumor growth, https:// www.mcgill.ca/newsroom/channels/news/key-mechanism-identified-brain-tumor- growth-26060

2016 McGill researcher makes progress in solving puzzle of deadly brain cancer glioblastoma, Montreal Gazette (Front Page, May 6, 2016)

2009 Research Perspectives: Revealing the Hidden Life - and Death - of our Cell
http://www.uottawa.ca/academic/grad-etudesup/research/article4.html

2007 Research Perspectives: Centre of Gravity
http://www.research.uottawa.ca/perspectives/10210

SELECT SCIENTIFIC BLOGS

1. Metabolic reprogramming by a cytokine receptor confers glioblastoma resistance to therapy Nature Cancer Community 2020
https://cancercommunity.nature.com/posts/metabolic-reprogramming-by-a-cytokine-receptor-confers-glioblastoma-resistance-to-therapy

2. Potential new treatment target for glioblastoma brain cancer Neuroscience RSS Feeds - Neuroscience News Updates
https://neurosciencenews.com/osmr-glioblastoma-brain-cancer-4111/

3. New key target identified in fight against glioblastoma Neurology Central
https://www.neuro-central.com/new-key-target-identified-in-fight-against-glioblastoma/

4. Achilles' Heel of Brain Cancer Identified in Tumor Stem Cells Stem Cellar, CIRM, California, US
https://blog.cirm.ca.gov/2016/04/27/achilles-heal-of-brain-cancer-identified-in-tumor-stem-cells/

G. RESEARCH

Following my recruitment to McGill/LDI in July 2015, I established a vibrant and dynamic research laboratory driven by innovative and original research programs in brain cancer biology and therapy. In less than 5 years, I raised funds in excess of $1,900,000 including a salary award from FRQS, John R. Evans Leaders Fund from Canadian Foundation for Innovation (CFI) to furnish my laboratory, three CIHR grants including an innovation grant and a major recent project grant on the cytokine receptor OSMR. I believe these accomplishments speak to the originality of my research program and my recognition as a national leader. I was recently recruited to the University of Ottawa as a Canada Research Chair (Tier II) and I am presently an associate professor at the department of Cellular and Molecular Medicine. At the international level, I have secured funding from UK brain tumor charity, have led international collaborations, and have received donations from overseas (Europe). This suggests that my research contributions are well respected internationally by funding agencies, world renowned colleagues and collaborators as well as the general public. Importantly, I have served as grant reviewer internationally (UK JeS, Wellcome Trust, Swiss National Funds).

With respect to my scholarly work, I have published 27 papers (4 in press), 9 papers as first author, and 12 papers as corresponding or co- corresponding author. My contributions have appeared in top tier journals including Nature Neuroscience (IF 21.126), Molecular Cell (IF 14.5), Neuron (IF 14.4), Nature Comm (IF 11.8), JBC (IF 4.1), Human Molecular Genetics (IF 4.51) and Cell Reports (IF 7.8). My work has been referenced 1832 times with an h-Index of 16. I have 6 publications that are referenced more than 100 times. My most ground-breaking studies on the discovery of OSMR in glioblastoma tumourigenesis (Nature Neuroscience, 2016), in which I am first and co- corresponding author received extraordinary coverage in research periodicals (News & Views, e.g. Nature Neurosci.), science Blogs (CIRM California, Neurology Central) and 26 news outlets (e.g. UK Mirror, Montreal Gazette, CTV, Medical News today, Science Daily). Most recently, our discovery of a mitochondrial OSMR and its role in glioma stem cell respiration and glioblastoma resistance to therapy was published in Nature Communication (IF 11.8). In the past three years, we have made additional ground-breaking discoveries including mechanisms that regulates stem cell fate via reprogramming transcriptional machineries (e.g. Sharanek et al, Cell Reports (IF 8.9). My trainees and I have presented these data nationally and internationally. For example, Matthew Laaper (MSc) and Dr. Ahmad Sharanek (Postdoctoral fellow) both won 1st prize for their presentation. I have presented these studies at the international meeting (e.g. Advances in biomedical sciences, Split, Croatia. I have also given talks at different institutes locally and nationally (e.g. University of Ottawa, MNI, U Carleton). I have also been invited for broadcast interviews including Joe Schwarcz show, McGill News room and Montreal Gazette. In addition to leading a multidisciplinary research program in my laboratory, as a ffaculty member at McGill, I have had tremendous opportunities to improve on my leadership and teaching skills. I have attended many interesting workshops to learn strategies on becoming a better leader by promoting active and collaborative learning, engaging trainees in dialogue, and make teamwork work. My team strongly supports promoting diversity, equity and inclusion which is the essence for creativity.

G1. Main areas of research (Present/past)

Glioblastoma is the most malignant primary brain tumor in adults. The present standard of care includes maximal surgical removal of the tumors followed by treatment with Temozolomide and

ionizing radiation. Despite these intense efforts, the median survival rate for glioblastoma patients remains ~18 months following diagnosis. This poor prognosis has been attributed to an incomplete understanding of the key signalling pathways that drive different subtypes of glioblastoma. At the molecular level, multiple genetic alterations have been identified in glioblastoma. The Cancer Atlas Genome project has revealed that receptor tyrosine kinases are altered in 88% of the glioblastoma patients. The most frequently altered gene is the epidermal growth factor receptor (*EGFR*). Over 50% of glioblastoma patients harbor amplification of *EGFR* and more than half of those patients also carry the truncated active *EGFR* mutant, EGFR-variant III (*EGFR*vIII). Targeting EGFRvIII remains a major focus of glioblastoma research. Despite great potentials, anti-EGFRvIII therapies, including tyrosine kinase inhibitors, or specific antibodies in single-agent have not yet led to significant clinical therapy primarily because of the knowledge gap on how this critical signalling pathway operates to drive tumorigenesis.

Launched in 2015, my laboratory centers on identification of EGFRvIII dependent pathway(s) and drug targets to manipulate EGFRvIII in combination with complementary pathways.

EGFRvIII/OSMR signaling in glioblastoma: Glioblastoma contains a rare population of self-renewing, multipotent, tumor stem cells, termed Brain Tumor Stem Cells (BTSCs). BTSCs are endowed with properties to evade treatment, survive and replenish themselves and spur the growth of new tumor cells. A better understanding of the underlying mechanisms regulating BTSCs is urgently needed in order to develop novel therapeutic strategies to eradicate these malignant stem cells. We have discovered that the cytokine receptor, OSMR, orchestrates a feed-forward signaling mechanism with EGFRvIII to maintain BTSC and glioblastoma tumorigenesis (Jahani-Asl et al. ***Nature Neuroscience*** 2016, first and co-corresponding author, Followed by News and Views in Nature Neuroscience). This striking discovery together with our subsequent findings that OSMR signaling regulates brain tumor stem cell (BTSC) self-renewal and *OSMR* inhibition sensitizes resistant BTSCs to tyrosine kinase inhibitors have provided the proof of concept for therapeutic targeting of OSMR. In other studies, in the past four years, my laboratory has discovered that OSMR regulates mitochondrial respiration and BTSC resistance to ionizing radiation (Sharanek and Burban et al, ***Nature Communication*** 2020). This work was presented at 2019 society for neuro-oncology (SNO) meeting (***Neuro-Oncology***, Volume 21, Issue Supplement_6). We were also invited to present this work in international Advances in Biomedical Research III (Split, Croatia), Till & McCulloch Stem Cell meeting, and 4th international Drug discovery Forum (Montreal Canada). My graduate student Matthew Laaper also won the best abstract (1st place) at the 3rd International Conference on Stem Cells, Development and Cancer. Most recently, we have developed monoclonal antibodies to OSMR and have found that these antibodies sensitize resistant BTSCs to radiation therapy *in vitro* and *in vivo* (Burban et al, unpublished). This work was presented at SNO meeting in 2019 (***Neuro-Oncology***, Volume 21, Issue Supplement_6).

LGALS1/HOXA5 Signaling in EGFRvIII subtype of glioblastoma: New Determinants of BTSC fate decisions: Tumor recurrence often follows surgical removal of glioblastoma but the lineage properties of the tumor initiating BTSCs remains unknown. In the past four years, my team has discovered that LGALS1 gene encoding the carbohydrate binding protein galectin 1, is upregulated in an EGFRvIII dependent manner in BTSCs and glioblastoma patient samples. Strikingly, genetic and pharmacological inhibition of *LGALS1*/galectin1 impair BTSC self-renewal and brain tumor formation. Subsequent analysis revealed a galectin1-HOXA5 interaction in EGFRvIII subtype of GB. We expect this manuscript to be submitted for publication Spring 2020.

We have been invited to give a talk on this work at SNO 2019 (***Neuro-Oncology*****,** Vol 21, Issue S6), Till & McCulloch Stem Cell meeting and 4th international Drug discovery Forum, in which we received "**The Mark Wainberg's Drug Discovery Award**". In addition, my postdoctoral fellow Dr. Ahmad Sharanek was awarded Best Presentation Award, 1st place at the Stem Cell and Regenerative Medicine meeting (Montreal, Quebec). This work was published at **Cell Reports**.

High throughput computational inference of signaling pathways: By utilizing next generation sequencing technologies such as ChIP- and RNA-Seq and microarray analysis we were able to identify critical new players in EGFRvIII-glioblastoma subtype including OSMR, Galectin1, and iNOS (Jahani-Asl et al. ***Nature Neuroscience*** 2016, Jahani-Asl et al. ***Oncotarget*** 2017, Jahani-Asl et *al.* ***Curr. Mol. Med.*** *2013,* Puram et al. ***J Neuroscience*** *2012*). Through additional collaborative work we identified a genetic switch that direct muscle stem cell towards differentiation (Soleimani et al. 2012 ***Mol. Cell***). Using similar platforms, we have identified the mechanisms by which the mental retardation gene *PHF6* impacts neuronal fate (Cheng et al. ***Cell reports*****,** Jahani-Asl et al. ***Neurobiology of disease*** 2016, Zhang et al. ***Neuron*** 2013). My laboratory is utilizing next generation sequencing technologies and single cell RNA-sequencing to decipher the transcriptional profiles of different subtypes of glioblastoma in tumorigenesis.

Regulation of nervous system development: My interest in studying nervous system development started in 2005 when I joined Dr. R. Slack laboratory to pursue a PhD degree. My studies led to a number of exciting discoveries where I found that mitochondrial fission and fusion play instrumental roles in the regulation of neuronal survival (Jahani-Asl et al. ***Human Molecular Genetics*** 2015, Jahani-Asl et al. ***JBC*** 2011, Jahani-Asl et al. ***JBC*** 2007, Laaper and Jahani-Asl 2018, ***Neural regeneration research***). In other studies, I discovered that CDK5 is a key regulator of mitochondrial fission (Jahani-Asl et al, ***Human Molecular Genetics*** 2015). I also contributed to knowledge in the field of cortical neurogenesis. We showed that Mcl-1 is required for neuronal development (Arbour et al, ***J Neuroscience***, 2008). During my postdoctoral training with Dr. A. Bonni, I studied transcriptional regulation of neuronal migration, focusing on PHF6. We discovered that PHF6 drives neuronal migration in developing cortex (Jahani-Asl et al 2016, ***Neurobiology of Disease***, Zhang et al 2012, ***Neuron***). In other studies, we generated and characterized PHF6 mutant mouse models (Cheng et al, **Cell reports** 2018). A major line of study in my laboratory is investigating impact of PHF6 on neurogenesis, specifically neural stem cell fate specification throughout neurodevelopmental timelines. We have generated 4 different mouse models using CRISPR and a loxp/Nestin Cre to characterize how PHF6 patient mutations contribute to intellectual disability via transcriptional reprogramming of neural stem cells during early corticogenesis.

G2. Personal Support Awards

2021-2026 Canada Research Chair (Tier II)
Total Funding- $500,000

2021-2025 The Fonds de recherche du Quebec-Sante (FRQS) Chercheurs-boursiers
Chercheurs-boursiers (Junior II), Declined
Total Funding - $320,000

2017-2021 The Fonds de recherche du Quebec-Sante (FRQS) Chercheurs-boursiers

Chercheurs-boursiers (JuniorI)
Total Funding - $267,401
Principal Applicant

2009-2013 CIHR Postdoctoral Fellowship
Harvard Medical School
Regulation of Dendrite Development by Ubiquitin Pathways
$172,500

2006-2009 CIHR Doctoral Research Award
University of Ottawa
The role of dynamin-related protein 1 (Drp1) in injury induced neuronal cell death
$66,000

G3. Trainee Salary Support Awards

2022 LGALS1/HOXA5 signaling in glioblastoma
BSc-MSc scholarship for the TST WiBR program
Alyanna Popatia, MSc Candidate, Translational and Molecular Medicine
University of Ottawa
Role: Principal Supervisor

2020-2022 Co-targeting Oncostatin M receptor in combination with current standards of care for glioblastoma therapy
FRQS post-doctoral fellowship
Total Funding- $90,000
Principle applicant: Dr. Audrey Burban
Role: Principal supervisor

2019 PHF6 regulation of Neural Migration
NSERC Undergraduate Student Research Award
Total Funding- $4500
Applicant: Claire Haumesser
Role: Principal supervisor

2017 BioTalent Canada
Total Funding: $4812
Applicant: Ilia Zenkov
Role: Principal Supervisor

G4. Research Grants (Active)

2022-2027 CIHR Project grant
Regulation of glioma stem cell fate and tumorigenesis by LGALS1/HOXA5 signalling pathway

Total Funding: $837,676
Role: Principal Applicant
Co-applicant: Vahab Soleimani (McGill)

2023-2024 CIHR project grant
Transcriptional Regulation of Impaired Neurogenesis in Developmental Disorders of Cognition and Intellectual Disability
Total Funding: 100,000 (1 year)
Role: Principal Applicant
Co-applicants: Hamed Najafabadi (McGill University) and Ruth Slack (U Ottawa)

2022-2023 Transcriptional Control of Glioma Stem Cells by a Novel LGALS1/HOXA5 Signalling Pathway
CIHR Priority announcement grant in epigenetics/epigenomics
Total Funding: $100,000 (1 years)
Role: Principal Applicant
Co-applicant: Vahab Soleimani (McGill)

2021-2026 Canada Research Chair (Tier II)
Total Funding- $100,000

2021 John R. Evans Leaders Fund
Canada Foundation for Innovation (CFI)
Defining stem cell fate specification in health and disease
Total Funding: $275,000
Role: Principal Applicant

2021 Ontario Research Funds – Research Infrastructure (ORF-RI)
Defining stem cell fate specification in health and disease
Total Funding: $275,000
Role: Principal Applicant

2021-2025 Canada Foundation for Innovation (CFI)
High Content Screening for Advanced Therapeutics
Total Funding: $ $286,417.00
Role: Co-Applicant

2019-2024 OSMR Regulation of Glioblastoma Pathogenesis
CIHR Project Grant
Total Funding- $753,500
Role: Principal Applicant
Co-applicants: Januz Rak (McGill), Igor Stagljar (U of T)

2016-2023 Transcriptional Regulation of Neuronal Migration

Natural Sciences and Engineering Research Council of Canada (NSERC)
Discovery Grant
Total Funding - $196,000
Role: Principal Applicant

G5. Research Grants (completed)

2020-2022 LGALS1 regulation of glioblastoma pathogenesis
Canadian Cancer Society
Total Funding: $120,000 (2 years)
Role: Principal Applicant

2017-2018 Developing a Drug for Glioblastoma **(International)**
UK Brain Tumor Charity, New Ideas Awards
99,721 (Pound sterling)
Role: Principal Applicant

2017-2018 Glioblastoma Pathogenesis: Molecular Targets and Therapies
CIHR- Project Scheme-Bridge Funding
$100,000
Role: Principal Applicant

2016-2017 OSMR Signaling in Glioblastoma Pathogenesis
CIHR Operating Grant: Targeting High Fatality Cancers - Innovation Grant
$100,000
Role: Principal Applicant

2017-2020 Glioblastoma Pathogenesis: Molecular targets and therapies
Fonds de recherche du Québec - Santé (FRQS)
Établissement de jeunes chercheurs Total Funding - $60,000
Role: Principal Applicant

2018 Infrastructure Operating Funds (IOF)
Canadian Foundation for Innovation, $13,600
Role: Principal Applicant

2017 John R. Evans Leaders Fund
Canada Foundation for Innovation (CFI)
Fonds des leaders John-R.-Evans
$170,000
Role: Principal Applicant

2015 New Investigator Start-up Fund
Jewish General Hospital, Lady Davis Institute
$225,000
Role: Principal Applicant

G6. Research Grant (In review/In Submission)

2023-2029 CIHR project grant
Transcriptional Regulation of Impaired Neurogenesis in Developmental Disorders of Cognition and Intellectual Disability
Requested budget: 1,360,000 (5 years)
Role: Principal Applicant
Co-applicants: Hamed Najafabadi (McGill University)

G7. Public Donation

2018 Donation to Jahani-Asl Research Program (Ontario): Developing OSMR Therapeutic Antibodies for Glioblastoma
Total Funding-$20,000

2016 Donation (International)
Donation from a family in Finland For Glioblastoma Research
$5,000

H. PUBLICATIONS (**Trainees in my laboratory)*

H1. Articles in peer reviewed journals

1. Rasool D, Burban A, Sharanak A, Aguirre AM, Thomas T, Slack RS, Soleimani VD, Bonni A, Najafabadi HS, **Jahani-Asl A.** (2023) Mapping PHF6 Regulome in the Developing Cortex Reveals the Therapeutic Potential of Ephrin receptors for Impaired Neurogenesis. *Genes & Dev.* (Submitted)

2. Burban A*, Sharanek A*, Hernandez-Corchado A, Najafabadi H, Soleimani VD, **Jahani-Asl A.** (2023) Targeting glioblastoma with a brain penetrant drug that impairs brain tumour stem cells *EMBO Mol Med.* (Submitted)

3. Randhawa K. and **Jahani-Asl A.** (2023), CLIC1 Regulation of glioma stem cells, Current Topis in Membranes, Invited review

4. Lazure F, Farouni R , Sahinyan K , Blackburn DM, Hernández-Corchado A , Perron G , Lu T, Osakwe A , Ragoussis J , Crist C , Perkins TJJ , **Jahani-Asl A** , Najafabadi HS, Soleimani VD (2023) Transcriptional reprogramming of skeletal muscle stem cells by the niche environment. *Nature Comm.* 14(1):535.

5. Sharanek A, Raco L, Soleimani VD, **Jahani-Asl A** (2022) In situ detection of protein-protein interaction by proximity ligation assay in patient derived brain tumor stem cells. *STAR Protoc*. 19;3(3):101554

6. Sharanek A.* and **Arezu Jahani-Asl** (2022), Measurement of Mitochondrial Oxygen Consumption Rates in Mouse Cerebellar Granule Neurons, *Methods in Molecular Biology*, 2515:1-15

7. Sharanek A*. Raco L*, Soleimani VD, **Jahani-Asl A**. (2022) Subcellular Fractionation of Brain Tumour Stem Cells, *Methods Cell Biology*, 170:47-58

8. Rasool D*. Soleimani VS, **Jahani-Asl A**. (2022) Isolation of Adult Neural Stem cells and Analysis of Self-renewal by ELDA, *Methods in Molecular Biology*, 2515:297-308

9. Burban A* and **Jahani-Asl A.** (2022), Isolation of mouse embryonic neural stem cells and characterization of neural stem markers by flow cytometry, *Methods in Molecular Biology*, 2515:343-354

10. Sharanek A*, Burban A*, Hernandez-Corchado A, Fatakdawala I*, Madrigal A, Najafabadi HS, Soleimani VD, **Jahani-Asl A**. (2021) Transcriptional Control of Brain Tumour Stem Cell Fate by a Carbohydrate Binding Protein, *Cell Reports*

11. Sharanek A*, Laaper M*, Burban A*, Joyal JS, Soleimani VD, **Jahani-Asl- A. (2020)** OSMR controls glioma stem cell respiration and confers resistance of glioblastoma to ionizing radiation. *Nature Comm.* 11(1):4116

12. Lazure F, Nguyen D, Blackburn D, Sahinyan K, Sharanek A*, Karam N, Perkin TJ, Lepper C, **Jahani-Asl A**, Soleimani VD. Myokines-Mediated Regulatory Loops Governed by Myf6/MRF4 Sustain Muscle Stem Cell Pool in Adult Skeletal Muscle, *EMBO Rep.*

13. Cheng C, Deng PY, Ikeuchi Y, Yuede C, Li D, Rensing N, Huang J, Baldridge D, Maloney SE, Dougherty JD, Constantino J, **Jahani-Asl A**, Wong M, Wozniak D, Wang T, Klyachko V, Bonni A. (2018). A Mouse Model of Börjeson- Forssman-Lehmann Syndrome Reveals a Novel Link with Autism Spectrum Disorders. *Cell Rep. 25(6):1404-1414.*

14. Laaper M*, **Jahani-Asl A.** (2018) Regulation of neural stem cell fate decisions by mitochondrial dynamic. *Neural Regen Res*.13(9)(9): 1548-1549

15. Laaper M*, Haque T*, Slack RS, **Jahani-Asl A.** (2017) Modeling neuronal death and degeneration in mouse primary cerebellar granule neurons. *J Vis Exp*.

16. Mohan S*, Bonni A, **Jahani-Asl A.** (2017). Targeting OSMR in Glioma Stem Cells *Oncotarget* 8(10):16103-16104

17. **Jahani-Asl A,** Yin H, Soleimani VD, Haque T*, Chang NC, Sincennes MC, Luchman A, Puram
SV, Scott AM, Lorimer IAJ, Perkins TJ, Ligon K, Weiss S, Rudnicki MA, Bonni A. (2016) Control of glioblastoma tumorigenesis by feed-forward cytokine signaling *Nature Neuroscience* 19(6):798-806

Followed by a) News and Views, Nature Neurosci and b) commentary: Cell Death Discovery 2016.

18. M Ghaly*, Seelmann C*, **Jahani-Asl A.** (2016) A focused compound drug screen highlights the significance of EGFR signaling in chordoma Pathogenesis. *J Pathology* 240(4):381-383

19. **Jahani-Asl A**, Cheng C, Zhang C, Bonni A (2016) Pathogenesis of Börjeson-Forssman-Lehmann Syndrome: Insights from PHF6 Function, *Neurobiology of Disease* 96:227-235

20. **Jahani-Asl A,** Haung E, Rashidian J, Irrcher I, Ishihara N, Slack RS, Park DS. (2015) CDK5 phosphorylates DRP1 and drives mitochondrial defects in NMDA-induced neuronal death *Hum Mol Genet* 24(16):4573-83

21. Zhang C, Mejia LA, Huang J, Valnegri P, Bennett EJ, Anckar J, **Jahani-Asl A**, Gallardo G, Ikeuchi Y, Yamada T, Rudnicki M, Harper JW, Bonni A. (2013) The X-linked Mental Retardation Protein PHF6 Associates with the PAF1 complex and Regulates Neuronal Migration in the Mammalian Brain (2013). *Neuron* 78(6):986-93

22. **Jahani-Asl A** and Bonni A. (2013) iNOS: A potential therapeutic target for malignant glioma. *Current Mol Med* (8):1241-

23. Puram S, Yeung C, **Jahani-Asl A**, Lin C, de la Iglesia N, Konopka G, Jackson-Grusby L, and Bonni A. (2012) STAT3-iNOS Signaling Mediates EGFRvIII-Induced Glial Proliferation and Transformation. *J Neurosci.* (23):7806-18

24. Soleimani VD, Yin H, **Jahani-Asl A**, Kockx CEM, van IJcken WFJ, Grosveld F and Rudnicki MA. (2012) Snail regulates MyoD binding-site occupancy to direct enhancer switching and differentiation-specific transcription in myogenesis. *Mol Cell* 47: 457-68

25. **Jahani-Asl A**, Pilon-Larose K, Xu W, Maclaurin JG, Park DS, McBride HM, Slack RS. (2011) The mitochondrial inner membrane GTPase, Optic Atrophy 1 (Opa1), restores mitochondrial morphology and promotes neuronal survival following excitotoxicity. *J Biol Chem* 286(6):4772-82

26. Irrcher I, Aleyasin H, Seifert EL, Hewitt SJ, Chhabra S, Phillips M, Lutz AK, Rousseaux MW, Bevilacqua L, **Jahani-Asl A,** Callaghan S, Maclaurin JG, Winklhofer KF, Rizzu P, Rippstein P, Kim RH, Chen CX, Fon EA, Slack RS, Harper ME, McBride HM, Mak TW,

Park DS. (2010). Loss of the Parkinson's disease-linked gene DJ-1 perturbs mitochondrial dynamics.
Hum Mol Genet 19(19):3734-46

27. **Jahani-Asl A**, Germain M, Slack RS (2010) Mitochondria: joining forces to thwart cell death. Review, *Biochim Biophys Acta*, 802(1):162-6

28. Arbour N, Vanderluit JL, LeGrand JN, **Jahani-Asl A**, Ruzhynsky VA, Cheung EC, Kelly MA, Mackenzie AE, Park DS, Opferman JT, Slack RS (2008) Mcl-1 is a key regulator of apoptosis during CNS development and after DNA damage. *J Neurosci,* 28(24):6068-78

29. **Jahani-Asl A,** Cheung EC, Neuspiel M, MacLaurin JG, Fortin A, Park DS, McBride HM, Slack RS (2007) Mitofusin 2 protects cerebellar granule neurons against injury-induced cell death. *J Biol Chem*, 282(33):23788-98

30. **Jahani-Asl A,** and Slack RS (2007) The phosphorylation state of Drp1 determines cell fate. *EMBO Rep,* 8(10):912-31

31. **Jahani-Asl A,** Basak A, Tsang B.K. (2007) Caspase-3-mediated cleavage of Akt: involvement of non-consensus sites and influence of phosphorylation, *FEBS Lett* 26; 581(16):2883-8

32. Fraser M, leung B, **Jahani-Asl A**, Yan X, Thompson WE, Tsang BK (2003) Chemoresistance in human ovarian cancer: the role of apoptotic regulators. *Rep Biol Endo,* 1:66

H3. CONFERENCE PUBLICATIONS

33. Audrey Burban, Ahmad Sharanek, **Arezu Jahani-Asl** (2019) Co-targetting Oncostatin M Receptor using monoclonal antibodies in combination with present standards of care for glioblastoma. Neuro-Oncology, Volume 21, Issue Supplement_6, November 2019, Page vi93

34. Ahmad Sharanek, Audrey Burban, **Arezu Jahani-Asl** (2019) OSMR controls cellular respiration and resistance to therapy. Neuro-Oncology, Volume 21, Issue Supplement_6, November 2019, Page vi41

35. Ahmad Sharanek, Idris Fatakdawala, **Arezu Jahani-Asl** (2019) Regulation of glioma stem cell self-renewal and tumourigenesis by carbohydrate binding protein. Neuro-Oncology, Volume 21, Issue Supplement_6, November 2019, Pages vi48–vi49

36. **Jahani-Asl A**, Yin H, Soleimani VD, Chang NC, Sincennes MC, Luchman HA, Puram SV, Scott AM, Lorimer IAJ, Perkins TJ, Ligon K, Weiss S, Rudnicki MA, Bonni A. (2015). EGFRvIII requires OSMR as a co- receptor to drive glioblastoma pathogenesis. Society for Neuro-Oncology *Neuro-oncology* 17 (suppl_5), v67-v67

37. **Jahani-Asl A**, E Huang, J Rashidian, I Irrcher, DS Park, RS Slack, Cdk5 regulates Drp1 phosphorylation and mitochondrial defects in post mitotic neurons
STROKE 43 (11), E129-E129

H4. BOOK/JOURNAL EDITOR

1. **Journal editor: eLife,** Board of reviewing editor

2. **Book**: Neuronal cell death, Arezu Jahani-Asl, Springer Nature 2022

H5. Select Abstracts (Past 5 years), *Trainees in my laboratory)

1. Popatia A*, Qu D* and **Jahani-Asl A**. Determining the mode of Galectin1/HOXA5 interaction in glioma stem cells (2022), University of Ottawa Faculty of Medicine's Research Day, Ottawa, Ontario

2. Rasool D*. and **Jahani-Asl A**. Regulation of neural stem cell fate by a novel PHF6/EphR transcriptional pathway (2022), University of Ottawa faculty of Medicine's Research Day, Ottawa, Ontario

3. Till & McCulloch Meetings (TMM) (2022), Dilan Rasool and **Jahani-Asl A.** , Regulation of neural stem cell fate by a novel PHF6/EphR transcriptional pathway. Vancouver BC

4. Society for Neuroscience (2022), Dilan Rasool and **Jahani-Asl A**, Regulation of neural stem cell fate by a novel PHF6/EphR transcriptional pathway. San Diego, CA

5. MNI Brain Tumour Research Seminar Series, Montreal, Canada, February 19th, 2020. The function of mitochondrial OSMR in glioma stem cell respiration and resistance to therapy. Audrey Burban* and **Arezu Jahani-Asl**

6. Society for Neuro-Oncology, Phoenix, United States, November 22nd, 2019. Co-targeting oncostatin M receptor using monoclonal antibodies in combination with present standards of care for glioblastoma.
Audrey Burban*, Ahmad Sharanek*, **Arezu Jahani-Asl**

7. Society for Neuro-Oncology, Phoenix, United States, November 24th, 2019. Regulation of glioma stem cell self-renewal and tumorigenesis by carbohydrate binding proteins.
Ahmad Sharanek*, Idris Fatakdawala*, **Arezu Jahani-Asl**

8. 2019 Till & McCulloch Meetings, Montreal, Canada, November 5th, 2019. Regulation of glioma stem cell self-renewal and tumorigenesis by carbohydrate binding proteins.
Ahmad Sharanek*, Idris Fatakdawala*, **Arezu Jahani-Asl**

9. 2019 Till & McCulloch Meetings, Montreal, Canada, November 5th, 2019. The function of mitochondrial OSMR in glioma stem cell respiration and resistance to therapy.

Audrey Burban*, Ahmad Sharanek*, Jean-Sebastien Joyal, Vahab D. Soleimani, **Arezu Jahani-Asl**

10. The 5th International Drug Discovery and Development Forum, Montreal, Canada, October 2nd, 2019. OSMR Controls Mitochondrial Respiration and Resistance to Ionizing Radiation in Brain Tumour Stem Cells
Audrey Burban*, Ahmad Sharanek*, Matthew Laapper*, Jean-Sebastien Joyal, Vahab D. Soleimani, **Arezu Jahani-Asl**

11. The 5th International Drug Discovery and Development Forum, Montreal, Canada, October 2nd, 2019. Regulation of glioma stem cell self-renewal and tumorigenesis by carbohydrate binding proteins.
Ahmad Sharanek*, Idris Fatakdawala*, **Arezu Jahani-Asl**

12. MNI Brain Tumour Research Seminar Series, Montreal, Canada, April 24th, 2018. Regulation of glioma stem cell self-renewal and tumorigenesis by carbohydrate binding proteins.
Ahmad Sharanek* and **Arezu Jahani-Asl**

13. Stem Cells and Regenerative Medicine McGill Network Symposium, Montreal, Canada, November 16th, 2018. Regulation of glioma stem cell self-renewal and tumorigenesis by carbohydrate binding proteins
Ahmad Sharanek*, Idris Fatakdawala*, **Arezu Jahani-Asl**

14. The 4th International Drug Discovery and Development Forum, Montreal, Canada, October 24th, 2018. Regulation of glioma stem cell self-renewal and tumorigenesis by carbohydrate binding proteins
Ahmad Sharanek*, Idris Fatakdawala*, **Arezu Jahani-Asl**

15. The 3rd International Conference on Stem Cells, Development and Cancer, October 18th, 2018. Montreal, Canada, Regulation of glioma stem cell self-renewal and tumorigenesis by carbohydrate binding proteins.
Ahmad Sharanek*, Idris Fatakdawala*, **Arezu Jahani-Asl**

16. 3rd International Conference on Stem Cells, Development and Cancer (2018) OSMR upregulation of mitochondrial biogenesis and respiration in glioma stem cells.
Laaper M*, Joyal JS, **Jahani-Asl A**

17. MNI Brain Tumour Research Seminar Series, Montreal, Canada, Dec 2018.
OSMR upregulation of mitochondrial biogenesis and respiration in glioma stem cells.
Laaper M*, Joyal JS, **Jahani-Asl A**

18. Stem Cells and Regenerative Medicine McGill Network Symposium, Montreal, Canada, November 16th, 2018.

OSMR upregulation of mitochondrial biogenesis and respiration in glioma stem cells.
Laaper M*, Joyal JS, **Jahani-Asl A**

19. Lady Davis Institute Annual Retreat, Montreal, Canada, May 2018.
OSMR upregulation of mitochondrial biogenesis and respiration in glioma stem cells.
Laaper M*, Joyal JS, **Jahani-Asl A**