Department/School: Cellular and Molecular Medicine, University of Ottawa October 2022

CURRICULUM VITAE

a) NAME: Michael Sean Downey, PhD, Associate Professor **Employee #**: 100240269

Member of the Faculty of Graduate and Postdoctoral Studies: Yes

b) DEGREES:

Ph.D., Molecular Genetics, University of Toronto, 2008
B.Sc (Hons)., Molecular Biology and Genetics, University of Guelph, 2002

c) EMPLOYMENT HISTORY: dates, rank/position, department, institution/firm, current full-time position

Date: May 2020-present
Title: Associate Professor
Organization: Department of Cellular and Molecular Medicine, University of Ottawa
Location: Ottawa, Ontario, Canada

Date: November 2014-present
Title: Assistant Professor
Organization: Department of Cellular and Molecular Medicine, University of Ottawa
Location: Ottawa, Ontario, Canada

Date: May 2008-November 2014
Title: Postdoctoral scholar (Lab of David Toczyski)
Organization: UCSF, Department of Biochemistry & Biophysics, Helen Diller Cancer Center
Location: San Francisco, California, USA

Date: September 2002-April 2008
Title: Graduate student (Lab of Daniel Durocher, Samuel Lunenfeld Research Institute)
Organization: University of Toronto, Department of Molecular Genetics
Location: Toronto, Ontario, Canada

Date: May 2002-July 2002
Title: Research Assistant (Lab of K. Yankulov)
Organization: University of Guelph, Department of Molecular Biology and Genetics
Location: Guelph, Ontario, Canada

Date: September 2001-May 2002
Title: Honours student (Lab of K. Yankulov)
Organization: University of Guelph, Department of Molecular Biology and Genetics
Location: Guelph, Ontario, Canada

Date: May 2001-Sept 2001
Title: Undergraduate Student Research Assistant (Lab of K. Yankulov)

Organization: University of Guelph, Department of Molecular Biology and Genetics

d) ACADEMIC HONOURS: (F.R.S., F.R.S.C., Governor Generals Award, honorary degree, or equivalent).

Award: Discovery Accelerator Supplement
Year: 2021
Organization: NSERC

Award: Early Researcher Award
Year: 2017
Organization: Ontario Ministry of Research, Innovation and Science:

Award: Program for Break-through Biomedical Research Award
Year: 2012
Organization: University of California, San Francisco

Award: Human Frontiers Science Program, Long-term fellowship
Year: 2008
Organization: Human Frontiers (International)

Award: Terry Fox Graduate Student Fellowship
Year: 2006
Organization: National Cancer Institute of Cancer, held at University of Toronto

Award: Hannah Farkas-Himsley and Alexander Himsley Memorial Prize
Year: 2006
Organization: University of Toronto
*For top student in graduate microbiology program at University of Toronto

Award: Ontario Graduate Student Scholarship
Year: 2006
Organization: University of Toronto

Award: Natural Sciences and Engineering Council of Canada PGSA Award
Year: 2002
Organization: University of Toronto

Award: Mary H. Beatty Scholarship (Entrance Scholarship)
Year: 2002
Organization: University of Toronto

Award: Dean's Scholarship
Year: 2000, 2001
Organization: University of Guelph

Award: NSERC Undergraduate Summer Research Award

Year: 2001
Organization: University of Guelph

Award: College of Biological Sciences Roll of Distinction
Year: 2000, 2001, 2002
Organization: University of Guelph

Award: Dean's List
Year: 1999, 2001, 2001, 2002
Organization: University of Guelph

Award: Board of Governors' Scholarship
Year: 1998
Organization: University of Guelph

e) SCHOLARLY AND PROFESSIONAL ACADEMIC ACTIVITIES: past 8 years only (e.g. executive and editorial positions but not memberships in societies; invited presentations at national or international conferences. Please do not list manuscript and grant application reviews)

Invited Talks:

Event: PRINCE protein homeostasis meeting
Title: Polyphosphate kinase remodels the bacterial proteome
Date: February 2023 (Scheduled)

Event: CCRI Seminar Series, University of Ottawa
Title: Biochemistry of Polyphosphates
Date: December 2022 (Scheduled)

Event: Queen's University, Department of Biology
Title: New functions and regulation for inorganic polyphosphates across evolution
Date: October 2022 (Scheduled)

Event: PRINCE protein homeostasis meeting
Title: New Mechanisms of action for inorganic polyphosphates
Date: January 2022

Event: Invited Seminar at Concordia University
Title: Harnessing the power of yeast as a model to understand post-translational modifications
Date: November 2021

Event: Connecting Young Minds Conference uOttawa (Keynote invited by UG students)
Title: Regulation of lysine based PTMs in health and disease
Date: Sept 2021

Event: The New Biology of Polyphosphate in Health and Disease
Title: Lysine polyphosphorylation as an evolutionarily conserved post-translational modification
Date: May 2021

Event: Invited seminar at Dalhousie University (Invited by Paola Marignani)
Title: Lysine polyphosphorylation as an evolutionarily conserved post-translational modification
Date: April 7th, 2021

Event: PolyP Online seminar series (uMichigan)
Title: Probing new functions for polyP across evolution
Date: June 2020

Event: Invited seminar at University of Western Ontario (Invited by Patrick Lajoie)
Title: Form and function of lysine-based post-translational modifications
Date: Scheduled for January 24th, 2020

Event: Selected platform talk at CSMB2019 Conference, Montreal PQ
Title: Polyphosphorylation as a new lysine-based post-translational modification in eukaryotes
Date: June 3, 2019

Event: Invited seminar at University of Pennsylvania (Invited by Wayne Hancock)
Title: Polyphosphorylation as a new lysine-based post-translational modification in eukaryotes
Date: May 1, 2019

Event: Invited seminar at Centre de Recherche CHUSJ. Montreal, PQ (Invited by Nöel Raynal)
Title: A new look at lysine-based PTMs in human disease
Date: March 12, 2019

Event: Invited seminar at University of Arkansas, Fayetteville, AR, USA (Invited by Jeff Lewis)
Title: Polyphosphorylation as a new regulator of diverse cellular functions
Date: October 11, 2018

Event: Selected platform talk at Yeast Genetics Meeting, Stanford University
Title: A novel screen uncovers new functions of lysine polyphosphorylation in yeast.
Date: August 22, 2018

Event: Platform talk at 4th Canadian Symposium on Telomeres & Genome Integrity. Mont Gabriel, PQ.
Title: Polyphosphorylation as a new regulator of diverse cellular functions
Date: May 22-25, 2018

Event: Platform talk at CSMB2017 Conference, Ottawa, Ontario, Canada
Title: New in town: Polyphosphorylation as a novel lysine modification
Date: May 16-20, 2017
Notes: I also served as a session chair at this meeting for 'Emerging trends in cell signalling'

Event: Selected for talk at CMM deparatmental retreat, Chateau Montebello, PQ.
Title: New in town: Polyphosphorylation as a novel lysine modification
Date: May 8-9, 2017

Event: Invited seminar at York University, Toronto, ON (Invited by. E. Rosonina)

Title: Understanding and exploiting lysine-based post-translational modifications in human disease
Date: January 24, 2017.

Event: 4th China-Canada Systems Biology Conference. Ottawa, ON.
Title: Understanding and exploiting non-histone protein acetylation in human disease
Date: June 16-17, 2016
Notes: I was also invited to serve as a session chair at this meeting for a session on proteomics

Event: Platform talk at The Canadian Symposium on Telomeres and Genome Integrity. Calgary, AB.
Title: Exploring polyphosphorylation of lysine as a novel regulator of cell function
Date: May, 24-27, 2016

Event: Invited seminar at The Maisonneuve-Rosemont Hospital Research Centre. Montreal, PQ
Title: Understanding and exploiting lysine-based PTMs in human disease
Date: May 10, 2016

Event: Invited speaker Department of Biology, Carleton University, Ottawa, ON (Invited by Students)
Title: Understanding and exploiting lysine-based PTMs in human disease
Date: March 11, 2016

Event: Keynote speaker at New Professor Seminar Series. Ottawa, ON
Title: Understanding and exploiting lysine-based post-translational modifications in human disease
Date: February 4, 2016

Event: Invited speaker at OISB retreat, Mont Tremblant, PQ
Title: Re-thinking protein lysine acetylation from a systems biology perspective
Date: May 6, 2015

Event: Invited seminar at Université Laval, Québec, PQ (Invited by Jacques Côté)
Title: Re-thinking the role of lysine acetylation in eukaryotic stress responses
Date: March 13, 2015

Event: Invited seminar at University of Ottawa (Invited by David Lohnes)
Title: The role of non-histone acetylation in the regulation of eukaryotic growth and division
Date: January 20, 2014

Event: Bay area yeast and other fungi symposium (Berkley CA, USA)
Title: Gcn5 and sirtuins regulate acetylation of the ribosomal protein transcription factor Ifh1
Date: November 3, 2012

Event: Yeast genetics & molecular biology meeting. Princeton University, New Jersey, USA
Title: Gcn5 and sirtuins regulate acetylation of the ribosomal protein transcription factor Ifh1
Date: July 31- August 5, 2012

f) GRADUATE SUPERVISIONS: (career numbers): masters/ doctoral/postdoctoral, completed/in progress. Please distinguish between supervisor and co-supervisor.

Completed: 3 MSc, 1 PDF, 1 PhD
In progress: 3 PhD, 1MSc, 1 Post-doctoral

NAME OF STUDENTS supervised within the past eight years, title of thesis or project (specify), and **both month and year** of year of first registration and year of completion:

Completed (awards in my lab are listed):

1. **Amanda Bentley-DeSousa** (PhD, Started Sept 2015, transferred 2017, Defended April 2021)
   Present Position: PDF at Yale University (USA)

Project: Mechanisms and function of lysine polyphosphorylation.

- First Place PhD Talk, CMM Research Day 2019
- Silver Medal CSHRF CIHR Health Sciences Conference 2019
- Top oral presentation OISB retreat 2019
- NSERC PhD Fellowship, $42,000, 2019-2021
- PhD Award of Excellence (2018), 1 per program per year
- 2nd Place Poster – CMM Poster Day May 2018
- uOttawa Excellence Scholarship, $10,000 per year, 2018-present
- Ontario Graduate Scholarship, $10,000, 2018
- uOttawa PhD admission scholarship, $10,000, 2017
- Travel Award (ASBMB Conference 2018)
- Top Poster Day CMM Research Day Nov 2016
- 2nd Place Poster Award - The Canadian Symposium on Telomeres and Genome Integrity 2016
- 2nd place poster Award - CMM Research Day Nov 2016

2. Anthony Rössl (MSc, May 2016 - Sept 2018) **Present Position:** Analyst, Privacy Analytics
Thesis Title: A synthetic acetylation substrate to study Gcn5 targeting and function in yeast

- MSc Award of Excellence (2017), 1 per program per year
- Top Poster Award (CEEHRC Epigenetics Meetings, Whistler, November 2017)
- 2nd CCSB Conference. Ottawa ON, Canada. October 27, 2017.
- Top Poster Award CMM Poster Day (Taichman Award), April 2017

3. Charlotte Holinier (MSc, Sep 2016 - Aug 2018) **Present Position:** Research Technician OHRI
Thesis Title: Novel tools to study polyphosphate biology in *S. cerevisiae* (yeast) and mammalian cells

- Travel Award (ASBMB Conference, 2018)

4. Rawan Nasser (2018-2020) **Present Position:** PharmD at UofT
Project: Polyphosphate as a modulator of cell signalling in cancer

PDF:

Emma Bondy-Chorney (April 2017–Sept 2021). **Present Position:** Health Canada Research Associate
Project: Polyphosphate function in human cells

- PDF Leadership Award from FofM
- Poster Award – Trend RNA conference 2019 (Toronto, Canada)
- Poster Award – OISB 2019 Retreat
- NSERC PDF fellowship, $90,000, 2018-2020
- Canadian Cancer Society Travel Award (2018)
- Post-doctoral Association Research Symposium Poster Prize (2018)

In progress:

PhD:

1. Liam McCarthy (Transferred to PhD 2020)
Project: Regulation of polyphosphate metabolism in yeast

- MSc Award of Excellence, Fall 2019
- 2nd place poster Prize CMM Poster Day 2019
- uOttawa graduate admission scholarship, $10,000, 2018-2020
- Ontario Graduate Scholarship 2020
- Canada Graduate Scholarship 2021
- Best Poster, CMM poster day 2021
- PolyP Day Best Talk Award 2022

2. Kanchi Baijal (Transferred to PhD 2020)
Project: Polyphosphorylation in *E. coli*

- Top MSc Poster, CMM Research Day 2019
- Third place poster CMM Poster Day 2021
- Ontario Graduate Scholarship 2022
- Selection for Cold Spring Harbor Laboratory Course on Advanced Bacterial Genetics

3. Sarah Laframboise (Jan 2022-present)

- Sarah is a Baetz lab PhD student who selected me as her formal co-supervisor when Dr. Baetz left for a new position at uCalgary. I expect Sarah will stay in my group to finish her PhD until early 2023.

MSc:

Cameron Gibson Jan 2022-
Project: Humanization of Yeast SAGA

PDF:

Dr. Onyeka Ononye (Jan 2021 – Present)
Project: Polyphosphorylation biochemistry

g) COURSES: past 8 years, by year

Undergraduate-level Courses:

YEAR	COURSE	CODE	TIME	COORDINATOR?
2022	Anatomy and physiology	ANP1105A	18 hrs.	Yes (with Steve G)
2022	Model systems of disease	TMM4106	3 hrs	No
2021	Anatomy and physiology	ANP1105A	18 hrs.	Yes (with Steve G)
2021	Model systems of disease	TMM4106	3 hrs.	No
2020	Anatomy and physiology	ANP1105A	18 hrs.	Yes (with Steve G)
	Model systems of disease	TMM4106	3 hrs.	No
2019	Anatomy and physiology	ANP1105A	18 hrs.	Yes (with Steve G)
	Model systems of disease	TMM4106	3 hrs.	No
2018	Anatomy and physiology	ANP1105A	18 hrs.	Yes (with Steve G.)
2017	Computational Systems Biology (Carleton University)	BIOC4008	1.5 hrs.	Yes (with Steve G.)

Graduate-level Courses:

YEAR	COURSE	CODE	TIME	COORDINATOR?
2022	Chromosome & Chromatin Biology	BCH8111	6 hrs.	No
2022	Cell Signalling & Hormone Action	CMM5372	9 hrs	Yes
2021	Cell Signalling & Hormone Action	CMM5372	9 hrs	Yes
2020	Cell Signalling & Hormone Action	CMM5372	9 hrs	Yes
2019	Cell Signalling & Hormone Action	CMM5372	6 hrs	Yes
2018	Cell Signalling and Hormone Action	CMM5372	12hrs	Yes
	Community Outreach & Media	ESG 5310	3 hrs.	No
2017	Cell Signalling & Hormone Action	CMM5372	9 hrs.	Yes
2016	Cell Signalling & Hormone Action	CMM5372	6 hrs.	Yes
	Chromosome & Chromatin Biology	BCH8111	3 hrs.	No
2015	Cell Signalling & Hormone Action	CMM5372	6 hrs.	Yes

h) EXTERNAL RESEARCH FUNDING: past 8 years only, by year, indicating source (granting councils, industry, government, foundations, other); amount; principal investigator; purpose (operating, travel, publications, equipment, etc...) (Include information on principal or co-investigator)

AWARDED & IN PROGRESS:

Natural Sciences & Engineering Research Council of Canada (NSERC) – Discovery Grant
Funding Duration: 2021-2026
Project Title: Molecular Control of non-histone protein acetylation in yeast
Role: Sole applicant
Total Value: $345,000, operating

Natural Sciences & Engineering Research Council of Canada (NSERC)
Funding Duration: 2021-2024
Project Title: Discovery Accelerator Supplement
Total Value: $120,000, operating

Canadian Institutes of Health Research (CIHR) – Project Grant
Funding Duration: 2021-2026
Project Title: Lysine polyphosphorylation as a regulator of bacterial stress
Role: Principal Applicant, co applicant Dr. Lavallée-Adam
Total Value: $722,925

COMPLETED GRANTS:

Ministry of Research, Innovation & Science – Early Researcher Award
Funding Duration: 2017-2022 (ENDS IN MARCH 2022)
Project Title: Regulation of conserved cellular functions by lysine post-translational modifications
Role: Sole applicant
Total Value: $150,000 for trainee stipends

Rare Disease Foundation - Microgrant
Funding Duration: 2018, extension until May 2021
Project Title: Acetylation of NPC2 and its potential as a new therapeutic target in Niemann-Pick Disease
Role: Co-applicant with Dr. Emma Bondy-Chorney (Post-doc in my lab)
Total Value: $3500, seed money

Canadian Institutes of Health Research (CIHR) – Project Grant
Funding Duration: 2016-2021
Project Title: Understanding and exploiting lysine polyphosphorylation as a new post-translational
modification regulating cell growth
Role: Sole applicant
Total Value: $733,920, operating

J.P. Bickell Foundation – Research Grant
Funding Duration: 2017-2021
Project Title: A novel approach to understanding and exploiting DBC1 in cancer
Role: Sole Applicant
Total Value: $65,000, operating

Natural Sciences & Engineering Research Council of Canada (NSERC) – Discovery Grant
Funding Duration: 2016-2021
Project Title: Substrate targeting by the Gcn5 acetyltransferase: mechanisms and consequences
Role: Sole applicant
Total Value: $180,000, operating

Rare Disease Foundation - Microgrant (2017)
Funding Duration: 2017-2018
Project Title: Polyphosphate: a novel universal regulator in Hermansky-Pudlak Syndrome
Role: Co-applicant with Amanda Bentley-DeSousa (PhD Student in my lab)
Total Value: $3,500, seed money

Canadian Cancer Society Research Institute – Innovation Grant

Funding Duration 2016-2018
Project Title: A new look at the role of ADA3 in cancer
Role: Sole Applicant
Total value: $198,000, operating

CIHR Dissemination Grant (2017)
Funding Duration: 2017
Project Title: Organelle Dynamics and Systems Biology Joint Scientific Sessions
Role: Co-applicant with Antonescu (Ryerson), Fairn (UofT), Botelho (Ryerson), Baetz (uOttawa), and Couture (uOttawa)
Total Value: $10,000 for funding of CSMB2017 conference

Rare Disease Foundation – Microgrant
Funding Duration: 2016
Project Title: Harnessing protein acetylation as an alternative treatment strategy for Diamond-Blackfan Anemia
Role: Sole applicant
Total Value: $3500, seed money

National Ataxia Foundation (USA) - Seed Money Grant
Funding Duration: 2016
Project Title: A new look at Ataxin7 as a regulator of substrate selection by the KAT2 acetyltransferase
Role: Sole applicant
Total Value: $30,000 USD ($40,955 CAN), seed money

i) **INTERNAL RESEARCH FUNDING:** past 8 years only, by year (university funds, SSHRC minor grants awarded through the university, etc.)

Date: November 2014 -
Funding: Start-up funds (equipment and infrastructure)

Date: November 2014 -
Funding: Start-up budget, operating costs

j) **PUBLICATIONS:** The Publications should be listed in the categories shown below and include the following information: books authored, books edited (a list of the chapters contributed by the editor must follow each title), chapters in books (other than those listed in the above category), papers in refereed journals, papers in refereed conference proceedings, major invited contributions and/or technical reports, abstracts and/or papers read, and others. **Please give full citation, page numbers for books, chapters, journal articles, conference proceedings and names of authors in the order in which they appear on the publication.** Publications submitted, but not yet accepted, must be listed separately within the various categories.

1) Life-time summary (count) according to the following categories:

- Books authored 0

- Books edited 0
- Refereed Chapters in books 0
- Non-refereed Chapters in books 0
- Papers in refereed journal (**Primary papers**) 18
- Papers in refereed conference proceedings 0
- Major invited contributions and/or technical reports (**Review papers**) 13
- Abstracts and/or papers read (**e.g. Conference Posters**) 58
- Others (workshops presented) 0

2) Details for past eight (8) years same categories as above:

**** As a PI since Nov 2014 have 19 papers published or in press** - 10 primary research and 9 review papers. 17 of these are as corresponding or co-corresponding author. Lab members are underlined.

PUBLISHED & ACCEPTED PRIMARY RESEARCH PAPERS (LAST 8 YEARS):

1. McCarthy, L, Abramchuk I, Wafy G, Denoncourt A, Lavallee-Adam M, **Downey M**. 2022 Ddp1 and Ppx1 cooperate to counter a stress response initiated by non vacuolar polyP. ***mBio.*** Aug 30;13(4):e0039022 **Corresponding author**

2. Shaza Asif, Ri Youn Kim, Thet Fatica Jordan Sim, Xiaoling Zhao, Yena Oh, Alix Denoncourt, Angela Cheung, **Michael Downey**, Erin E. Mulvihill, Kyoung-Han Kim. (2022) Hmgcs2-mediated ketogenesis modulates high-fat diet-induced hepatosteatosis. ***Molecular Metabolism.*** doi: 10.1016/j.molmet.2022.101494. Epub 2022 Apr 12

3. Bentley-DeSousa and Michael Downey. 2021 Vtc5 is localized to the vacuole membrane by the conserved AP-3 complex to regulate polyphosphate synthesis in budding yeast. ***mBio.*** Oct 26;12(5):e0099421 **Corresponding author;** OISB paper of the year (PhD Category)

4. Bondy-Chorney E, Abramchuk I, Nasser R, Denoncourt A, Baijal K, McCarthy L, Khacho M, Lavallee-Adam M, **Downey M.** (2020) A broad response to intracellular long-chain polyphosphate in human cells. ***Cell Reports*** Oct 27;33(4):108318 **Corresponding author;** OISB paper of the year (PDF Category)

5. McCarthy L, Bentley-DeSousa A, Denoncourt A, Tseng Y-C, Gabriel M, and **Downey, M**. (2020). Proteins required for vacuolar function are targets of lysine polyphosphorylation in yeast. ***FEBS Letters***. 594(1):21-30 **Corresponding author**, - Includes undergrad author; OISB paper of the Year (MSc Category)

6. Rajaa Sebaa, Jeff Johnson, Chantal Pileggi, Michaela Norgren, Jian Xuan, Yuka Sai, Qiang Tong, Izabella Krystkowiak, Emma Bondy-Chorney, Norman Davey, Nevan Krogan, **Michael Downey**[#] & Mary-Ellen Harper[#]. (2019) SIRT3 controls brown fat thermogenesis by deacetylation regulation of pathways upstream of UCP1. ***Molecular***

Metabolism 25:35-49. #**Co-corresponding author,** OISB paper of the Year (PhD Category)

7. Rossl A, Denoncourt A, Lin MS & **Downey M**. (2019) A synthetic non-histone substrate to study substrate targeting by Gcn5 HAT & sirtuin HDACs. ***Journal of Biological Chemistry*** 294(16):6227-6239. **Corresponding author**

8. Bentley-DeSousa A, Holinier C, Moteshareie H, Tseng YC, Kajjo S, Nwosu C, Amodeo GF, Bondy-Chorney E, Sai Y, Rudner A, Golshani A, Davey NE & **Downey M**. (2018) A screen for candidate targets of lysine polyphosphorylation uncovers a conserved network implicated in ribosome biogenesis. ***Cell Reports***, 22(13):3427-3439. **Corresponding author,** Includes undergrad authors, Awarded Journal Cover

9. Da Costa EM, Armaos G, McInnes G, Beaudry A, Moquin-Beaudry G, Bertrand-Lehouillier V, Caron M, Richer C, St-Onge P, Johnson J, Krogan N, Sai Y, **Downey M**, Rafei M, Boileau M, Eppert K, Flores-Díaz E, Haman A, Hoang T, Sinnet D, Beauséjour C, McGraw S & Raynal N. (2019) Targeting MYC Overexpressing Leukemia with Cardiac Glycoside Proscillaridin Through Downregulation of Histone Acetyltransferases. ***Journal of Experimental & Clinical Cancer Research***. 2021 Nov;88(5):845-856

10. Rossl A, Bentley-DeSousa A, Tseng Y-C, Nwosu C & **Downey M**. (2016) Nicotinamide suppresses the DNA damage sensitivity of *S. cerevisiae* independently of sirtuin deacetylases. ***Genetics***, 204(2):569-579. **Corresponding author**
- Includes undergrad authors

11. **Downey M#,** Johnson JR, Davey NE, Newton BW, Johnson TL, Galaang S, Seller CA, Krogan N & Toczyski DP. (2015) Acetylome profiling reveals overlap in the regulation of diverse processes by sirtuins, Gcn5 and Esa1. ***Molecular and Cellular Proteomics***, 14:162-76. # **Sole corresponding author**

12. **Downey M**, Knight B, Vashisht AA, Seller CA, Wohlschlegel JA, Shore D & Toczyski DP. (2013) Gcn5 and sirtuins regulate acetylation of the ribosomal protein transcription factor Ifh1. ***Current Biology***, 23:1638-1648**.**

PUBLISHED REVIEW PAPERS:

1. Ononye OE, & **Downey M** 2022. Post-translational regulation of the GCN5 and PCAF acetyltransferase. Plos Genetics. Sep 15;18(9):e1010352.

2. Baijal, K & **Downey M** (2021). Targeting Polyphosphate Kinases in the Fight against Pseudomonas aeruginosa**.** ***mBio*** Aug 31;12(4):e0147721.doi: 10.1128/mBio.01477-21. Epub 2021 Aug 3. **Corresponding author**

3. Baijal, K & **Downey M** (2021). The promises of lysine polyphosphorylation as a regulatory modification in mammals are tempered by conceptual and technical challenges. ***Bioessays.*** Jul;43(7):e2100058. doi: 10.1002/bies.202100058. **Corresponding author**

4. Denoncourt A & **Downey M**. (2021). Model Systems for studying polyphosphate biology: A focus on microorganisms. ***Current Genetics***. Jun;67(3):331-346. doi: 10.1007/s00294-020-01148-x **Corresponding author**

5. **Downey M (2021)** Non-histone protein acetylation by the evolutionarily conserved GCN5 and PCAF acetyltransferases. ***BBA: Gene Regulatory Mechanisms.*** Feb;1864(2):194608. **Corresponding author**

6. Bentley-DeSousa A & **Downey, M**. (2019) From underlying chemistry to therapeutic potential: Open questions in the new field of lysine polyphosphorylation. ***Current Genetics*** 65(1):57-64**. Corresponding author**

7. **Downey, M.** (2019) A Stringent analysis of polyphosphate dynamics in *E. coli***. *Journal of Bacteriology*** 201(9). pii: e00070-19 **Corresponding author.**

8. Bondy-Chorney E, Sai Y, Denoncourt A & **Downey M**. (2018). Non-histone targets of KAT2A and KAT2B implicated in cancer biology. ***Biochemistry and Cell Biology***, 97:30-45. **Corresponding author**

9. **Downey M#** and Baetz K#. (2016) Building a KATalogue of acetyllysine targeting and function (2015). ***Briefings in Functional Genomics***, 15(2):109-18. **# Co-corresponding authors**

10. Edenberg ER, **Downey, M** & Toczyski DP. (2014) Polymerase stalling during replication, transcription and translation. ***Current Biology***, 24: 445-452.

ABSTRACTS (POSTERS OR TALKS AT CONFERENCES:

Presenter Listed First, lab members *, not including posters as part of course work

1. Cameron Gibson* & Michael Downey. Constructing a yeast strain humanized for the SAGA acetyltransferase module. OISB Scientific Symposium. May 2022. NAV Centre. Poster

2. Kanchi Baijal, Iryna Abrumchuk, Mathieu Lavallée Adam. & Michael Downey. Studying how polyphosphate promotes bacterial survival during amino acid starvation. OISB Scientifc Symposium. May 2022. NAV Centre. Talk

3. McCarthy, L*, Abramchuk I, Wafy G*, Denoncourt A*, Lavallée-Adam M, Downey M. Ddp1 and Ppx1 cooperate to counter a stress response initiated by non vacuolar polyP. OISB Scientifc Symposium. May 2022. NAV Centre. Poster

4. Emma Bondy-Chorney*, Iryna Abramchuk, Rawan Nasser*, Charlotte Holinier*, Alix Denoncourt*, Kanchi Baijal*, Liam McCarthy*, Mireille Khacho, Mathieu Lavallée-Adam, Michael Downey. (2020). A broad response to intracellular long-chain polyphosphate in human cells. Allied Genetics Conference 2020. Poster

5. Amanda Bentley-DeSousa* and Michael Downey. (2020). Investigating the AP3 complex: linking a rare disease to an ancient molecule. Allied Genetics Conference, Poster

6. Amy Dagenais*, Kanchi Baijal*, Shauna Han*, Michael Downey. **Top Poster Prize**. (2020). Ready, Aim, Fire: Investigating the target sequence requirements for polyphosphorylation in E. coli. Faculty of Medicine Research Day, Ottawa, Poster

7. Liam McCarthy* & Michael Downey. (2020). Investigating the impact of cytoplasmic polyphosphate in yeast. Faculty of Medicine Research Day, Ottawa, Poster

8. Kanchi Baijal*, Shauna Han*, Amy Dagenais* and Michael Downey. (2020). Identifying novel targets of polyphosphorylation in Escherichia coli. Faculty of Virtual Medicine Research Day, Ottawa. Poster

9. Bondy-Chorney E*, Chabot B, Sai Y* and Downey M. **Top poster prize**. (2019). The role of GCN5 alternative splicing in SAGA substrate selection. Toronto RNA Enthusiast's Day., Toronto, Poster

10. Bentley-DeSousa* and Downey M. (2019). Investigating the regulation of polyP metabolism by the conserved AP3 complex. Top PhD talk. OISB retreat, Cornwall, Talk

11. Kanchi Baijal*, Shauna Han* and Michael Downey **First Place Award**. (2019). A screen for novel targets of polyphosphorylation in E. coli. CMM Research Day, Poster

12. Baijal K*, Rosonina E, Johnson JR, Krogan N, and Downey M. (2019). Investigating PTM switches in S. cerevisiae. OISB retreat., Poster

13. McCarthy, L* and Downey M. (2019). Impact of polyP and polyphosphorylation on vacuolar proteins in yeast. OISB Retreat., Poster

14. Nasser R*, Bondy-Chorney E*, Holinier C* and Downey M. (2019). Novel methods to study polyP in mammalian systems. OISB retreat., Poster

15. Bentley-DeSousa A* and Downey, M. ** Silver medal**. (2019). Investigating the AP3 complex: connecting a rare disease to an ancient molecule. CIHR Health Sciences Conference, Winnipeg, Poster

16. Nasser R*, Bondy-Chorney E* and Downey M. (2019). Novel methods to study polyphosphate biology in mammalian systems. Ontario Cell Biology Day, Toronto, Canada. Poster

17. Bondy-Chorney E*, Sai Y*, Downey M. **Top Poster**. (2019). The role of KAT2A alternative splicing incancer. Ottawa Institute for Systems Biology Retreat, Conference Date: 2019/5 Poster

18. Sriranganathan A*, Bondy-Chorney E* and Downey M. (2019). Detecting polyphosphorylation as a PTM in candidate mammalian proteins. UROP poster day.,
Conference Date: 2019/3 Poster

19. Chen SM*, Baijal K*, and Downey M. (2019). Investigating the acetyl/SUMO switch competition in S. cerevisiae.UROP poster day., Conference Date: 2019/3 Poster

20. Bondy-Chorney E.*, Chabot B, and Downey M. **Top poster prize**. (2018). The role of mammalian lysine acetyltransferase KAT2A alternative splicing in SAGA substrate selection.10th Annual PDA Research Day., Poster

21. K Baijal *, Rosonina E, Denoncourt A*, and Downey, M. (2018). Investigation of acetyl/SUMO switches in S. cerevisiae. CMM Research Day, Poster

22. Nasser R*, Holinier C*, Bondy-Chorney*, and Downey M. (2018). Regulation of mammalian polyphosphate synthesis pathways. CMM Research Day, Ottawa, Poster

23. Bentley-DeSousa A*, Holinier C*, Moteshareie H, Tseng Y-C*, Bondy-Chorney E*, Davey N, Golshani A and Downey M. (2018). A screen for novel targets casts lysine polyphosphorylation as a common PTM. ASBMB, San Diego, Poster

24. McCarthy L* and Downey M. (2018). Impact of polyphosphate and polyphosphorylation on vacuolar proteins in yeast.CMM Research Day, Ottawa, Poster

25. Bentley-DeSousa A* Holinier C*, Moteshareie H, Tseng Y-C*, Kajjo S, Nwosu C*, Amodeo GF, Bondy-Chorney E*, Sai Y*, Rudner A, Golshani A, Davey NE, & Downey M **2nd Place Poster**. (2018). Molecular characterization of polyphosphorylation: a novel post-translational modification implicated in ribosome biogenesis. CMM Research Day, Ottawa, Poster

26. Bondy-Chorney E*, Chabot B, Sai Y,* and Downey M. (2018). The role of KAT2A alternative splicing in SAGA substrate selection in cancer cell lines. Keystone Symposia: Cancer Epigenetics: New Mechanisms, New Therapies., Breckenridge, Poster

27. Bondy-Chorney E*, Sai Y*, and Downey M. (2018). The role of KAT2A alternative splicing in SAGA substrate selection. Toronto RNA Enthusiast's Day., Conference Date: 2018/8 Poster

28. Holinier C*, Bentley-DeSousa A*, Bondy-Chorney A*, Davey N and Downey M. (2018). Studying polyphosphorylation, a novel PTM, in mammalian cell liens.ASBMB., Conference Date: 2018/4 Poster

29. Bentley-DeSousa A*, Tseng Y-C*, Nwosu C*, Davey N, Moteshareie H, Golshani A, and Downey M. (2017). Molecular characterization of polyphosphorylation: a novel posttranslational modification implicated in ribosome biogenesis. CSMB2017, Ottawa, Poster

30. Dufor M-E*, Bondy-Chorney E*, Sai Y*, and Downey M. (2017). The Role of TADA3 in the DNA Damage Response in MCF7 Breast Cancer Cells. CSMB2017, Ottawa,Poster

31. Sai Y*, Bondy-Chorney E*, Johnson J, Krogan N, Downey M. (2017). Identifying the role of ataxin-7 in SAGA complex mediated non-histone protein acetylation in spinocerebellar ataxia type 7. CSMB2017, Poster

32. Rössl A, * Sanu K*, Lin M-S, Downey M. **Top poster award**. (2017). Consensus target sequences andthe ADA submodule regulate acetylation by the SAGA complex.4th Canadian Conference on Epigenetics, Whistler, Poster

33. Rössl A*, Sanu K*, Lin M-S, Downey M. (2017). Rössl A, Sanu K, Lin M-S, Downey M. CMM Research Day, Ottawa, Poster

34. Rössl A*, Sanu K*, Downey M. **Top Poster Prize**. (2017). Consensus target sequences and the ADA submodule regulate acetylation by the SAGA complex. 2nd CCSB Conference, Ottawa, Poster

35. Rossl A*, Sanu K*, Downey M. (2017). Consensus target sequences and the ADA submodule regulate acetylation by the SAGA complex.CSMB2017., Ottawa, Poster

36. Bondy-Chorney E*, Sai Y*, Downey M. (2017). Understanding the role of Alteration/Deficiency In Activation 3 (TADA3) as a regulator of non-histone protein acetylation in breast cancer. CSMB2017, Ottawa, Poster

37. Charlotte Holinier* and Michael Downey. (2017). How does polyphosphate reduce alpha-synuclein toxicity?. CSMB2017, Conference Date: 2017/5 Poster Published

38. Anthony Rossl*, Amanda Bentley-DeSousa*, Yi-Chieh Tseng*, Christine Nwosu* and Michael Downey. (2016). Nicotinamide as a novel suppressor of DNA damage sensitivity in yeast. Canadian Symposium On Telomeres and Genome Integrity, Calgary, Poster

39. Michael Downey & Amanda Bentley-DeSousa*. (2016). Polyphosphorylation of lysine as a novel PTM regulating cell growth. CIHR New PI meeting, Mont Gabriel, Poster

40. Rossl A*, Sanu K*, Downey M. (2016). The SAGA complex as a platform for non-histone protein acetylation. CMM Research Day, Ottawa, Poster

41. Charlotte Holinier* & Michael Downey. (2016). Yeast as a novel system to study proteotoxic stress in neurobiology. CMM Research Day, Ottawa, Poster

42. Bentley-DeSousa A*, Nwosu C*, Tseng Y-C*, Downey M **First Place Poster**. (2016). Expected the Unexpected –Exploring polyphosphorylation of lysine as a new post translational modification. CMM Research Day, Ottawa, Poster

43. Amanda Bentley-DeSousa*, Yi-Chieh Tseng*, Christine Nwosu* and Michael Downey. **2nd place poster**. (2016). Expect the unexpected – Exploring polyphosphorylation of lysine as a new post-translational modification. Canadian Symposium On Telomeres and Genome Integrity., Calgary, Poster

44. Yi-Chieh Tseng* and Michael Downey **2nd place presentation**. (2016). Polyphosphorylation: a novel post translational modification. Connecting Young Minds, Abstract

45. *Ahwon Jeong, *Amanda Bentley-DeSousa and Michael Downey. (2016). Investigating the function and regulation of polyphosphorylation as a post-translational modification in yeast. UROP Symposium, Ottawa, Conference Date: 2016/3 Poster

46. Yi-Chieh Tseng* and Michael Downey. (2015). A genetic screen reveals candidate suppressors of fpk1 nicotinamide sensitivity in yeast. Ottawa Institute of Systems Biology Retreat, Mont Tremblant, Poster

47. Yi-Chieh Tseng* and Michael Downey. (2015). A genetic screen reveals candidate suppressors of fpk1 nicotinamide sensitivity in yeast. Undergraduate Research Opportunity Symposium 2015, Ottawa, Poster

48. Amanda Bentley-DeSousa* and Michael Downey **2nd Place Poster**. (2015). Expect the Unexpected - Polyphosphorylation of lysine as a new post-translational modification. CMM Research Day, Ottawa, Conference Date: 2015/10 Poster

49. Yi-Chieh Tseng* and Michael Downey **3rd place talk**. (2015). Beyond Histone Deacetylation: New Functions for Sirtuins in Yeast. Connecting Young Minds, Ottawa, Canada Conference Date: 2015/8 Abstract

50. Sadad Rahman* and Michael Downey. (2015). Investigating the role of sirtuins in ribosomal biogenesis. Undergraduate Student Research Opportunity Program Symposium,

k) SERVICE & LEADERSHIP AT UNIVERSITY OF OTTAWA:

Current Thesis Advisory Committees: N=18 (Over 20 different TACs during academic year) **Sina Kiani** (MSc, Ferguson Lab), **Alyssa Pastic** (PhD, D'Amorus Lab); **Anna Kochlar** (D'Amours Lab, MSc); **Nagla Arab** (Kaern Lab, PhD); **Karyn King** (Russell Lab, PhD); **Sarah LaFramboise** (Baetz Lab, PhD); **Bahaeddine Tilouche** (Coutu Lab, PhD); **Sangavi Sivananthan** (Baetz Lab, MSc); **Elizabeth Walden** (Baetz Lab, PhD); **Hani Jrade** (Standford Lab, PhD);); **Sean Stephenson** (Rudner Lab, PhD); **Laurence Langlois-Lemay** (D'Amours Lab, PhD); **Ana Dias** (Tuana Lab, PhD); **Ashley Janna** (Couture Lab, MSc), **Wesley Chan** (Colavita Lab, PhD), **Ghadir Makki** (Chan Lab, PhD), **Shamayita Roy** (PhD, D'Amours Lab); **Sope Oke** (MSc, D'Costa Lab)

Past Thesis Advisory Committees: N=11
Alain David (Rudner Lab, MSc), **Hamood AlSudais** (Wiper-Bergeron, PhD); **Saadia Khilji** (Li lab, PhD); **François Desrochers** (Benoit Lab, MSc); **Tom Kazmirchuk** (Golshani Lab uCarleton,

MSc); **Sabiha Rahman** (D'Amours Lab, PhD); **Kateland Simmons** (Kaern Lab, MSc); **Rajaa Sebaa** (Harper Lab, PhD); **Bledar Xhialli** (Chan lab, MSc); **Usha Kabilan** (Alain Lab, MSc), **Sean Stephenson** (Rudner Lab, PhD); **Man Kin Wong** (Dilworth Lab, PhD)

Fast-track PhD transfer Exams: N=9
Sarah Hachmer (Dilworth Lab, 2021), **Ashley Janna** (Couture Lab, 2021), **Karyn King** (Russell Lab, 2021); **Sarah Laframboise** (Baetz Lab, February 2020); **Laurence Langlois-LeMay** (D'Amours Lab, April 2019); **Saadia Khilji** (Li lab, Summer 2017); **Sean Stephenson** (Rudner Lab, May 2017)**; Man Kin Wong** (Dilworth Lab, April 2017); **Hani Jrade** (Stanford Lab, April 2016)

PhD Comprehensive Exams: N=13
Hoanan Duan (Figeys Lab, 2022), **Mahanish Thapa** (Chan Lab, 2022), **Ana Dias** (Tuana Lab 2021), (**Bahaeddine Tilouche** (Coutu Lab, PhD, 2021); **Wesley Chan** (Colavita Lab, PhD, 2021); **Alyssa Pastic** (PhD, D'Amorus Lab 2020),**Taha Rehmani** (Tuana lab, October 2019); **Elizabeth Walden** (Baetz lab, April 2019); **Alexia Kirby** (Shuhendler lab, April 2019); **Rajaa Sebaa** (Harper Lab, December 2016); **Zhaoyi Chen** (Stanford Lab, April 2016)**; Shelly Deeke** (Figeys Lab, April 2016); **Erin Kennedy** (Rudner Lab, October 21, 2015)

Thesis Examiner: N=20
Maisa Alkailani (Gibbings Lab, PhD 2021,)**Hamood Alsudais** (Wiper-Bergeron Lab, PhD 2021), **Alain David** (Rudner Lab, MSc 2021), **Saadia Khilji** (Li Lab, 2021)**; Kevin Mercurio** (Baetz Lab, MSc 2020); **Bledar Xhialli** (Chan lab, MSc 2020), **Danny Salem** (MSc, Kaern Lab March 2019); **Kateland Simmons** (MSc, Kaern Lab March 2019); **Shelly Deeke** (PhD, Figeys Lab, November 2018); **Erin Kennedy** (PhD, Rudner Lab, July 2018); **Tabitha Rosembert** (Rudnicki Lab, 2018); **Hillary Phenix (**PhD, Kaern Lab, November 2017); **Amit Shrestha** (PhD, Megeney Lab, August 2017); **John Haddad (**MSc, Couture Lab, May 2017); **David Czosniak** (MSc, Baetz Lab Dec 2016); **Meaghen Rollins (**MSc, Baetz Lab, August 2015); **Nada Elnour** (MSc, Kaern Lab, July 2015); **Elizabeth Williams** (PhD, Rudner Lab, November 2014); **Sylvain Lanouette** (PhD, Couture Lab, May 2015); **Rosalind Gerson** (MSc, Rudner Lab, March 2015)

Thesis Exam Chair: N=5
Pamela Zhang (PhD, Biochemistry, June 2, 2015); **Sarra Ahmed** (MSc, CMM, July 20, 2015), **Virja Mehta** (PhD, CMM July 2017); **My-Anh Nguyen** (Rayner Lab, September 2019); **Erik Hesse (**MSc, CMM, July 2019), **Abera Durendran** (Ilkow Lab, 2022)

Grant & Fellowship Review for uOttawa:
- **J.P Bickell Foundation** (2021,)
- **NSERC and CIHR Canada Graduate Scholarships** (2020, 2021, 2022)
- **MSc and PHD OGS Evaluations** (2020, 2022)
- **J.P Bickell Foundation** (2019, 5 grants)
- **NSERC PhD Fellowships** (2019, 11 applications)

Committees and Leadership:

Associate Director – Ottawa Institute of Systems Biology (March 2020 – Present)
- Participation in formalization of an OISB-NRC collaborative agreement
- OISB-NRC Steering Committee (Project development, policy)

- Initiation and oversight of OISB Trainee Committee
- OISB Operations Committee
- Social media and promotion
- **Introduction of Early Career Researcher Award**

Graduate Student Recruitment Committee (2017-):

- Member of a multi-department committee focused on recruitment of the best students to the Faculty of Medicine.
- DEGREE Shadowing program committee 2022
- Organization of 2021 Discovery Day (November 2021)
- Member of a multi-department committee focused on recruitment of the best students to the Faculty of Medicine.
- Co-organizer of November 2018 "Discovery Day"

Faculty Search Committee (2022)

Genome Editing and Molecular Biology (GEM) Facility Advisory Board (2022-)

Selection of CMM Graduate Director (2021)

Academic Malfeasance Committee (Ad Hoc 2021)

Junior Faculty Mentorship Committee:

- Formal mentorship committee for new PI, Dr. Suresh Gadde (2021-)

Cell Biology "Work in Progress" seminar series for CMM Department (Fall 2015 – present):

- I initiated and coordinate this seminar series that is now moving into its four year. This series provides a unique avenue for trainees to improve their communications skills while receiving feedback on their projects from both experts and non-experts.

Invitation of Seminar Speakers:

- Since 2015 I have invited 21 speakers to the University of Ottawa. Speakers meet with graduate students to network. Speakers have included leaders in academia and industry, who are able to provide unique insights into careers in biological sciences.

Graduate Studies Committee for CMM (2019-)

- Evaluation of fellowship applications
- Policy development
- Ensuring **student voices are heard** with regards to uOttawa and FofM decisions

Departmental Tenure and Promotion Committee, Cellular & Molecular Medicine: (DTPC, Elected June 2020- present)

Organising committee - Ottawa Institute of Systems Biology Scientific Meeting (2018-2019, 2022):

- Organization of offsite retreat for >150 students and faculty
- Focus on trainee development and collaborations

Faculty Experience Team (2018-2020):

- Focused on improving recognition and wellness at the Faculty of Medicine level, including that of junior faculty

Common Equipment & Technical Core Facility Committee (2019-)

Early Research Award Workshop for Junior Faculty (June 2018, September 2019)

- Advice and targeted feedback for new PIs in the Faculty of Medicine applying to the ERA competition

CMM Departmental Retreat (2018, 2019):

- Organization of Departmental Retreat at Chateau Montebello, Quebec
- Recruitment of speakers, coordinating schedule and team building activities
- I was asked by Chair Dr. David Lohnes to coordinate and oversee the completion of action items stemming from our 2019 Departmental retreat. This role involves regular updates at faculty meetings and coordinating with volunteers (department members and administrative staff) to accomplish prioritized goals related to core facilities, graduate student recruitment, and other issues raised at our June 2019 retreat.

TMM Mentor (2016-Present):

- Served as a **student mentor** for the Translational and Molecular Medicine Program

l) NATIONAL & INTERNATIONAL LEADERSHIP:

Lead organizer of the Canadian Society for Molecular Biosciences CSMB2023 Conference:

- Planning and executing of international meeting to be held in Ottawa, with over 350 attendees, entitled 'Metabolic Regulation of Cell Signalling'
- Chair and speaker recruitment, finances, venue selection, promotion and organization
- Ensuring Equity, Diversity and Inclusion
- Oversite of Trainee Committee
- Development of a **trainee and junior faculty focused meeting** focused on learner interests and experience

Canadian Society for Molecular Biosciences – Councillor, Elected June 2022

Canadian Society for Molecular Biosciences – Conference Committee, at large member (2018-2021)

- Planning and support for annual CSMB meetings
- Evaluation of Travel Awards, Promotion of student interests

Canadian Society for Molecular Biosciences – Membership & Diversity Committee, at large member (2019-2021)

- Defining recruitment strategies and promotion of diversity among membership

Co-organizer of the Canadian Society for Molecular Biosciences CSMB2017 Conference:

- Planning and executing of international meeting held in Ottawa, with over 400 attendees
- Responsible for recruitment of speakers and advertising for the conference
- Organized poster session with over 200 trainee posters
- Co-applicant of successful CIHR dissemination grant providing conference funding
- Chair of Cell Signaling Scientific Session

- Participant in career panel

National & International Grant Review Activities:

- NSERC RTI panel (Fall 2022)
- Scientific Officer for Canadian Cancer Society – Breakthrough Team Grants (Nov 2022)
- External Reviewer for the National Science Centre (Poland) (2022)
- External Reviewer for the US-Israel Agricultural Research & Development Fund (January 2022)
- CIHR BMB-B Panel (Spring 2022)
- NSERC External Grant Reviewer 2022
- Czech Science Foundation project review – external reviewer 2021
- Scientific Officer for Canadian Cancer Society Challenge Grants Panel C1 Fall 2021
- NSERC RTI panel (Fall 2021)
- CIHR BMB-B panel (Fall 2021)
- CIHR BMB-B panel (Spring 2021)
- Reviewer for CRC application 2021
- External Reviewer for the US-Israel Agricultural Research & Development Fund (December, 2019)
- Member of CIHR 'College of Reviewers'
- Scientific Officer Canadian Cancer Society – Uterine Cancer Grants (June 2020)
- Scientific Officer Canadian Cancer Society – Impact Grants (November 2019)
- Scientific Officer Canadian Cancer Society – Biomarkers and Genomics (June 2019)
- Scientific Officer Canadian Cancer Society – Chordoma Research Grants (November, 2018)
- External review for 2 grants in the 2018 Discovery Grant competition
- CIHR Project Scheme Reviewer BMB-B Panel (Spring 2018)
- CIHR Project Scheme Review BMB-B Panel (Fall 2017)
- CIHR Project Scheme Reviewer (Winter 2017, Stage 1 and Stage 2)
- Scientific Officer Canadian Cancer Society – Biomarkers and Genomics (June 2018)
- Scientific Officer Canadian Cancer Society – Gene Regulation and Cell Biology - June 2016
- Scientific Officer Canadian Cancer Society – Gene Regulation and Cell Biology - Dec 2016

Service as External PhD Examiner:

- Antoine Simoneau, lab of H. Wurtele, UdeM (2018)
- Rahul Ghugari, lab of Alain Verreault, UdeM (2018)

Manuscript Review & Editorial Roles:

PLoS Biology (2015), Genetics (2015), PLoSOne (2015), Journal Proteome Research (2015), Nature Communications (X2) (2016) Scientific Reports (2016), PLoS Genetics (2016-2017; 2019), ACS Chemical Biology (2018), Journal of Bacteriology (2018), Genome Biology (2018-2019), BCB (2019 X2), Nature Communications (2019), JBC (2020), Science Signalling (2020), mBio 2021, Clinical and Translational Medicine (2021), HUCE (2021), Trends in Microbiology (2021); Computational and Structural Biotechnology Journal (2021), Critical Reviews in Oncology / Hematology (2022), Tissues and Cell (2022), PLOS Genetics (2022), Beilstein Journal of Organic Chemistry (2022), Journal Proteomics (2022), Microbiology (2022), Aging Cell (2022), PLOS ONE (2022), Journal Molecular Biology (2022).

- Guest Associate Editor (PLOS Genetics 2021, 1 article)

m) YOUTH OUTREACH:

York Street Public School (2018, 2019, 2020, 2021, 2022):

- My lab makes a yearly visit to the grade 7 science class at York street public school to carry out science demonstrations and promote careers in science
- Distributed colouring books focused on Women in Science

DEGREES Shadowing program (2018, 2019, 2022):

- Hosted 4 undergraduate researchers for 3 days each to shadow graduate students in the lab

IgNITE (Ottawa, 2017):

- Evaluator for Ottawa-based case study competition for high school students

SciNAPSE (2016, 2017):

- Evaluator for National Case Study competitions on student-designed projects, provided tailored feedback

RISE (Ottawa, 2016):

- **Invited by undergraduate students** to community event to promote careers in science to elementary, high school and undergraduate students

Dr. Michael Downey
451 Smyth Rd. Rm 4501H
Ottawa, Ontario, Canada
Mdowne2@uottawa.ca

October 2022