**CURRICULUM VITAE**

**Dr. Dawn M. E. Bowdish**

*h-index = 48 (Google Scholar)*

**Business Address:**

Department of Medicine

McMaster Immunology Research Centre

MG DeGroote Institute for Infectious Disease Research

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**Educational Background:**

|  |  |
| --- | --- |
| **2005 – 2008**  logo2 | Canadian Institute of Health Research Post-doctoral Fellow  University of Oxford, Department of Pathology, Oxford U.K  Laboratory of Prof. Siamon Gordon  “Genetic and Functional Analysis of the scavenger receptor, MARCO” |
| **2000 – 2005**  ul_by | PhD. (Microbiology & Immunology)  University of British Columbia, Dept. of Microbiology & Immunology Vancouver, Canada  Laboratory of Prof. R.E.W. Hancock  “Interactions of the human host defence peptide, LL-37 and the innate immune response” |
| **1995 – 1999** | BSc. Honours (Microbiology)  University of Guelph, Dept. of Microbiology, Guelph, Canada  Undergraduate project and summer studentship in the lab of Prof. J.S. Lam and supervised by Dr. Lori Burrows  “Genetics of the O-antigen of the O5 serogroup of Pseudomonas aeruginosa” |

**Honours:**

|  |  |
| --- | --- |
| 2020 | Royal Society of Canada -College of New Scholars |
| 2019-2024 | Canada Research Chair in Aging and Immunity (Tier 2, renewed) |
| 2019 | McMaster Student’s Union (MSU) Community Engagement Award |
| 2018-2022 | University Scholar |
| 2016-2017 | Breathe New Life Award – Top rated grant in the Ontario Thoracic Society/Ontario Lung Association’s Grant in Aid program |
| 2014-2019 | Canada Research Chair in Aging & Immunity, Tier 2 |
| 2014 | Best Teacher Award from the Department of Pathology & Molecular Medicine |
| 2013 | Nomination for the President’s Award for Excellence in Graduate Student Supervision |
| 2012 | Ontario Lung Association-Pfizer Canada Research Award |
| 2011 | G. Jeanette Thorbecke New Investigator Award, Society of Leukocyte Biology |
| 2010 | ASPIRE, Pfizer Young Investigator Award for study of post-influenza pneumonia in the elderly |
| 2006 – 2008 | JMH Junior Research Fellowship awarded by Linacre College at the University of Oxford |
| 2006 | Cangene Gold Award, Awarded by the Canadian Society of Microbiology for the highest ranked PhD thesis in Microbiology |
| 2005 – 2008 | Post-doctoral Fellowship awarded by the Canadian Institutes of Health Research |
| 2003 – 2005 | Canada Graduate Scholarship awarded by the Canadian Institute of Health Research |
| February, 2005 | Honorarium for having abstract chosen to present at the Innate Immunity in Human Disease Research Day: BC Research Institute for Children’s & Women’s Health |
| November, 2004 | Travel Allowance awarded by the International Endotoxin Society  8th Biennial Conference of the International Endotoxin Society,  Kyoto, Japan |

**Current Status at McMaster University:**

**January 2021-ongoing Professor, Tenured**

Department of Medicine

MG DeGroote Institute for Infectious Disease Research

McMaster Research Immunology Centre

“Innate immunity and host-microbe interactions across the life course”

**July 1, 2019- 2020 Professor, Tenured**

Department of Pathology & Molecular Medicine

MG DeGroote Institute for Infectious Disease Research

McMaster Research Immunology Centre

“Innate immunity and host-microbe interactions across the life course”

**July 1, 2014 – Associate Professor, Tenured**

**June 30, 2019** Department of Pathology & Molecular Medicine

MG DeGroote Institute for Infectious Disease Research

McMaster Research Immunology Centre

“The role of macrophage receptors in innate immunity and host defence”

**February 1, 2009 – Assistant Professor, Tenure-Track**

**June 30, 2014** Department of Pathology & Molecular Medicine

MG DeGroote Institute for Infectious Disease Research

McMaster Research Immunology Centre

“The role of macrophage receptors in innate immunity and host defence”

**Professional Organizations:**

Ontario Thoracic Society

Society for Leukocyte Biology

Canadian Society for Immunology

American Society for Immunology

**Employment History:**

*Academic*

August 2021 – ongoing: Executive Director, Firestone Institute of Respiratory Health

January 2021- ongoing: Professor, Department of Medicine, McMaster University, Hamilton, ON.

July 2019- Dec 2020: Professor, Department of Pathology & Molecular Medicine, McMaster University, Hamilton, ON.

July 2014- July 2019: Associate Professor, Department of Pathology & Molecular Medicine, McMaster University, Hamilton, ON.

February 1, 2009- June 30, 2014: Assistant Professor, Department of Pathology & Molecular Medicine, McMaster University, Hamilton, ON.

**Scholarly & Professional Activities:**

*Professional development*

Attended:

* Equitable Recruitment & Search/Selection Committee. January 22, 2021
* EnGender Workshop by The Executive Minds Inc. January – June 2018. This cross-faculty leadership training course addresses how change management, leadership styles and strategies for achieving professional goals.
* The Faculty of Health Sciences Leadership Management course 2016-2017
* The Emotionally Intelligent Manager: Ontario Hospital Association. November 25-27, 2015.

Completed:

* “R Basics – R programming Language Introduction” online course. Udemy July, 2016

*Journal Referee (ad hoc)*

Cell Host & Microbe, Journal of Infectious Disease, PLoS Pathogens,-Journal of Leukocyte Biology, Molecular Therapeutics, Mucosal Immunology, Frontiers in Immunology, American Journal of Respiratory Cell and Molecular Biology, American Journal of Respiratory and Critical Care Medicine, Journal of Immunology, PLoS ONE, Journal of Innate Immunity, Journal of Royal Society Interface,-Journal of Inflammation, Infection & Immunity, American Journal of Physiology, Molecular Autism and others

*Journal Editor*

* Immunity & Ageing Journal (2019-ongoing)

*Guest Editor*

* Guest editor for special issue entitled “Bioinformatics for Immunologists” of Frontiers in Immunology (2014-2015)

*External Grant Reviews*

-CIHR Microbiology & Infectious Disease Panel (Operating Grant, May 2013, Scientific Officer December 2017, March 2018, December 2019, August 2020)

-Reta Lila Weston Trust (Microbiome & Brain Health grants, 2020)

-CIHR College of Reviewers (2017-ongoing)

-Irish Science Foundation (Ireland) (2016, 2017, 2019,2020)

-NSERC (Discovery Grant Competition, Jan 2011, 2013, 2016, 2017, 2018, 2019,2020)

-Rosetrees Trust (2020)

-Dutch Research Council (2020)

-The Lung Association (Basic Science panel, March 2014, 2018, 2019)

-Banting Research Foundation (2016-2019)

-Biotechnology & Biological Sciences Research Council (UK) (2014, 2015, 2018)

-NIH – Project Program Grant (2017, 2018)

-Medical Research Councils UK (2016, 2017)

-Scottish MRC – MIDAS-RTI (2017)

-Fondazione Cariplo, Italy (2016)

-ANR (Agence Nationale du Récherche), France (2012, 2016)

-CIHR (Biomedical Sciences, Institute of Aging) external reviewer (2014)

-Israeli Science Foundation (2014)

-Multiple Sclerosis Society of Canada (Operating Grant competition, Jan 2011 & 2013)

-Asthma UK (2012)

*Contributions to Scientific Societies*

Board of Directors, Lung Health Foundation (formerly Ontario Lung Association) (June 2015-ongoing)

Major initiatives include;

1. the transition from a federated association to the Lung Health Foundation, including creating the Lung Health Foundation Advisory Board.
2. participating in the “Breathing as One” campaign, designed to increase research funding for lung health by 10-12 million in the next 5 years. (2014-present)
3. Advocating for Bill 71: Lung Health Act, a private members bill to create a lung health action plan for Ontario (2014-present).
4. spokesperson for International Pneumonia Day 2017, 2018 and the vaccination campaign for pneumococcal pneumonia. <https://www.facebook.com/OntarioLungAssociation/videos/596521740766963/>

Organizing committee for the 2020 International Symposium on Pneumococci and Pneumococcal Diseases (ISPPD), Toronto, Ontario. (postponed to 2022 due to COVID-19)

Organizing committee for the International Infection, Immunity and Inflammation Conference (I4C)

May 14-15, 2019, Vancouver, BC Canada

Discussion Leader at the 2019 Gordon conference on Antimicrobial peptides (Barga, Italy) and 2020 Gordon Conference on Acute Respiratory Infections (Galveston, Texas)

Vice-chair of the 2016 Gordon conference on Acute Respiratory Infections (Galveston, Texas)

co-Chair of the 2018 Gordon conference on Acute Respiratory Infections (Ventura, California)

Scientific Advisory Board, “Exploiting plant-made vaccines to protect the elderly against respiratory viruses” Génome Québec / le Ministère de l'Économie, de la Science et de l'Innovation (2017-2019)

Executive committee of the Ontario Thoracic Society (2018-ongoing)

*Consulting*

Pfizer Advisors and Vaccine Experts (PAVE), 2019

Qu-Biologics (Vancouver, Canada) 2013-2017

Miami Mice (Toronto, Canada) 2014-2015

**Administrative Responsibilities:**

**Committee Membership**

*University*

* FHS Equity, Diversity & Inclusion (2019-ongoing)
* Braley Centre for Antimicrobial Resistance Executive Committee (2019-ongoing)
* Assistant Director IIDR - Training(2019-2021)
  + Major contributions include developing the Braley Fellows program in antimicrobial resistance
* IIDR Executive Committee (2015- ongoing)
* CFI Infrastructure internal review committee (2016)
* Animal Research Ethics Board member (2014-2017)
* Focus Group on Identification and Support of Emerging Leaders at the Assistant and Associate Professor Levels (October 2014)
* Graduate Council Scholarships Member: Rank scholarships for OGS, NSERC, CIHR (Oct 2010 – Aug 2013)

*Department*

* + Institute for Infectious Disease Research Symposium/Trainee Day Organizing Committee –2010, 2018, 2019
    - Tenure & Promotion Committee – Pathology & Molecular Medicine, 2017-ongoing.
    - MIRC communications committee 2013-ongoing
      * -responsible for website design, content and social media activities
    - Institute for Infectious Disease Research Communications Committee Aug 2013-Aug 2014
    - Organizer of Trainee Poster Presentations and Awards: Michael G. DeGroote Institute for Infectious Disease Research Opening Symposium (October 24th, 2009)

*Faculty*

* + Chemistry Faculty Search Committee Oct-Dec 2018
  + Judge for the FHS Post-doctoral Fellow Association Annual Presentation day (2018)
  + Infection & Immunity Area Co-ordinator for the Medical Sciences Graduate Program (2012-2013).
  + FHS Research Plenary Award Selection Committee: Selected graduate winners of awards presented at the Inaugural Faculty of Health Sciences Research Plenary (May 4th, 2010)
  + Judge – Poster session: 1st Annual FHS Postdoctoral Research Day (June, 3rd, 2010)
  + Judge – Student Award Symposium: Canadian Society of Microbiology 2010 Annual Conference (June 2010)

**Areas of Interest:**

**Research:** immunosenescence, macrophage biology, macrophage receptor expression, scavenger receptor and phagocytic receptor function and signalling, aging and immunity, innate immunity & host defence, bacterial colonization and infections (e.g. *Streptococcus pneumoniae*), animal models of pneumonia and post-influenza pneumonia, microbiome of the upper respiratory tract, pathogens & commensals of the upper respiratory tract

**Teaching:** immunology, innate immunity, host defence, immunosenescence, host-pathogen interactions

**Courses Taught:**  **Course Title**

*Undergraduate*

HTH SCI 4II3 Advanced Immunology (Jan 2011-2017, 2019-ongoing) – Course co-ordinator (until 2020) & lecturer (ongoing)

HTH SCI 4II3 Advanced Immunology (2018, 4 lectures/semester)

HTH SCI 3I03 Immunology (Sept 2015-ongoing, 1 lecture/semester)

HTH SCI 1DT3 Introduction to Immunology (Jan 2014-ongoing, 2 lectures/semester)

BDC4B03 Commercialization planning (2017W)

BDC3A03 Road to Biomedical Discovery (November 2016, 2017)

HTH SCI 4DM3 Demystifying Medicine (Sept 2013-Dec 2013)

*Graduate Courses:*

MS 730 Antimicrobial Resistance from principles to practice (2019 -ongoing)

MS 799 Independent Study in Medical Sciences (2010 & 2012)

*Graduate Lectures:*

MS715 Advanced Immunobiology (1 lecture per term 2010-ongoing)

BBS 771 Immunometabolism (1 lecture per term 2016-ongoing)

**Supervisorships:**

**(For a complete list of awards and distinctions received by trainees see www.bowdish.ca/people)**

**MSc (in progress)**

Sofya Ermolina (Medical Sciences) 2021-ongoing “The role of the microbiome in unhealthy aging”

Dominika Boron (Medical Sciences) 2020-ongoing “Features of the upper respiratory tract microbiome

associated with infection”

Anastasia Chouvalov (Medical Sciences)2019-ongoing “Early life adversity alters the aging trajectory”

Diana Mirceta (U. Copenhagen) 2020-ongoing “Identifying members of the upper respiratory

microbiota with anti-pneumococcal properties”

**MSc (completed)**

Erica DeJong 2018-2020 “The microbiota and unhealthy aging”

Grace Teskey 2016-2018 “Peripheral immunophenotype is changed during

autism spectrum disorder”

Aveshni Naidoo 2013-2016 “Age-associated inflammation impairs the anti-bacterial

activity of macrophages.”

Netusha 2014-2016 “Age related changes in the microbiome of the URT

Thevaranjan predispose the elderly to *S. pneumoniae* infection”

Nick Yap 2014 - 2016 “Phylogenetic approaches to characterize the evolution

(co-supervised with Brian Golding) of pattern recognition receptors”

Fiona Whelan 2010 - 2012 “Evolution of the class A scavenger receptors”.

Zhongyuan Tu 2010 - 2012 “Discovery of novel signalling motifs in the cytoplasmic

domain of MARCO”.

Mariliis Kroos 07/2007- 09/2008 Co-supervised with Prof. Siamon Gordon, University of

Oxford

“The role of the cytoplasmic domain of MARCO in

adhesion and motility”.

**PhD (in progress)**

Jenna Benoit 2021-ongoing “COVID-19 vaccination efficacy in patients on immunomodulatory drugs”

Kevin Zhao (Medical Sciences, MD/PhD program) 2021-ongoing “TNF impairs macrophage killing of

*Streptococcus pneumoniae”*

**PhD (completed)**

Elnur Shayhidin (Medical Sciences) 2019-2021 “TNF impairs macrophage killing of *Streptococcus*

(withdrawn due to COVID) *pneumoniae”*

Jessica Breznik(Medical Sciences) 2016-2020 “Peripheral Monocytes and Intestinal Macrophages

during Chronic Inflammation”

Sara Makaremi (Biomedical Engineering)2014-2020 “Structural requirements for macrophage adhesion”

(co-supervised with Jose Moran-Mirabal)

Pat Schenck (Biochemistry) 2014-2019 “The composition of the airway microbiota influences

(co-supervised with Mike Surette) infection risk”

Dessi Loukov (Medical Sciences) 2014-2018 “Age-associated inflammation drives macrophage

dysfunction and susceptibility to pneumococcal

infection.”

Kyle Novakowski (Medical Sciences) 2012- 2017 “The importance of the scavenger receptor cysteine

rich domain of MARCO in bacterial recognition &

signalling”.

Fan Fei (Chemistry) 2013-2015 “Metabolomic analysis of the inflammatory response of

macrophages from young and old mice.”

Mike Dorrington (Medical Sciences) 2010 – 2015 “The role of MARCO in control of pneumococcal

colonization of the nasopharynx”.

Alicja Puchta (Medical Sciences) 2010- 2014 “Age associated macrophage dysfunction

contributes to susceptibility to pneumonia”.

**Post-doctoral (in progress)**

Dr. Jessica Breznik 2020-2022 “Immunologic predictors of COVID-19 risk in long term care”

Dr. Candice Quin 2020-2023 “Age-associated inflammation alters myelopoiesis”

Dr. Tatianne Ribeiro 2019-2021 “Early life adversity alters immune function”

(co-supervised with Dr. Deborah Sloboda, MIRA & M. G. DeGroote Fellowship recipient)

**Post-doctoral (completed)**

Dr. Allison Kennedy 2017-2020 “Peripheral immune changes in prostate cancer patients

(co-supervised with Dr. Doug Boreham) undergoing low dose radiation”

Dr. Janine Strehmel 2016-2019 “Mining the URT microbiota for novel antimicrobials”

Dr. Cedoljub Bundalovic-Torma 2018-2019 “Age-related changes to the upper respiratory tract

(co-supervised with Dr. Mike Surette) microbiota”

Dr. Christian Schulz 2016-2018 “Host-microbiome interactions influence colonization

(DFG fellowship recipient) and infection with *S. pneumoniae”.*

Dr. Chris Verschoor 2010- 2016 “Age-associated myeloid cell immunosenescence

contributes to susceptibility of the elderly to

*Streptococcus pneumoniae*”.

Dr. Preethi Jayanth 2011 – 2013 Co-supervised with Dr. Mike Surette

“Mechanisms of host immune evasion by the

*Streptococcus milleri* group”

Dr. Peter Pelka 2011 – 2012 “Host immune responses to the microbiota of the upper

respiratory tract”.

**Undergraduate students**

1. Zhongyuan Tu 05/2009-08/2010 Biochemistry -4th year thesis
2. Alex Jiang 06/2009-04/2012 BHSc- 3rd & 4th year thesis
3. Harikesh Wong 07/2009-04/2010 Biochemistry- 4th year thesis
4. Sarah Chauvin 06/2010-04/2011 Biochemistry- 3rd year project & 4th year thesis
5. Jaskiran Nanda 05/2011-08/2011 Biology -Summer research student
6. Michael Danesi 05/2011-08/2011 Biology & Psychology –Summer Research
7. Charles Yin 05/2012-08/2012 iSci- 3rd year thesis student

09/2013-04/2013 4th year thesis student (ISCI 4A12)

1. Keith Lee 05/2012-04/2013 BHSc- 4th year thesis student
2. Peter Mu 08/2011-04/2013 Undergraduate Lab Manager
3. Samathy Balachandran 01/2013-04/2013 Pharmacology – 4th year thesis student
4. Netusha Thevaranjan 05/2013-04/2014 Undergraduate Technician, Summer student, Biology-

4th year thesis student (Life Sci 4C09)

1. James Han 05/2013-04/2014 iSci- 4th year thesis student (ISCI 4A12)
2. Prashant Kalvapalle 05/2013-08/2013 MITACS summer studentship recipient
3. Jessica Wallace 09/2013-04/2014 Biology 4th year thesis student
4. Robert Valencia 09/2013-04/2014 Lab Co-ordinator
5. Dessi Loukov 01/2014-04/2014 4th year thesis student
6. Philip Lauman 01/2014-04/2014 iSci-3rd year thesis student
7. Melissa Ling 01/2014-04/2014 iSci-3rd year thesis student

09/2014-04/2015 iSci- 4th year thesis student

1. Ben Su 09/2014-04/2015 Academic advisor for SCIENCE 3EX6 Applied Placement
2. Alan Zhou 01/2015-04/2015 iSci-3rd year thesis student
3. Mohamad Malik 01/2015-08/2015 Biotechnology co-op student
4. Vikash Chawla 09/2015-04/2016 Biology Senior Thesis student (Biol 4C09)
5. Alejandra Lagos 09/2015-04/2016 Biology Senior Thesis student (Biol 4C09)
6. Thilini Delungahawatta 09/2015-04/2016 Biology Senior Thesis student (Biol 4C09, co-supervised

with David Rollo)

1. Justin Boyle 09/2015-04/2016 Chemistry Senior Thesis student (co-supervised with

Dr. José Moran-Mirabal)

1. Jenny Sun 01/2016-08/2016 Biology & Pharmacology co-op student
2. Mohammad Malik 05/2016-09/2016 Biotechnology co-op student
3. Melodie Na-Yoon Kim 05/2016-09/2016 3rd year BHSc student HTH SCI 3H03
4. Joseph Chong 09/2016-04/2017 3rd year Biochemistry student

09/2017-04/2018 4th year Biochemistry student

1. Jason Fan 09/2015-04/2016 3rd year BHSc HTHSCI3H03

09/2016-04/2017 4th year BHSc

1. Sureka Pavalagantharajah 09/2016-04/2017 4th year BHSc
2. Dhanyasri Maddiboina 09/2016-04/2017 iSci-3rd year thesis student
3. Joseph Chong 09/2017-04/2018 4th year Biochemistry student
4. Dhanyasri Maddiboina 09/2017-04/2018 iSci- 4th year thesis student
5. Melodie Na-Yoon Kim 05/2017-09/2018 4th year BHSc student HTH SCI

08/2018-04/2019 4th year BHSc student HTH SCI

1. Judjina Thevaranjah 01/2018-12/2018 Co-op student (Winter/Summer semester), Thesis (Fall)
2. Danny Ma 05/2018-04/2019 NSERC USRA (Summer), BHSc thesis (Fall/Winter)
3. Mina Sadeghi 05/2018-04/2019 Biopharm thesis (Summer), Co-op (Fall/Winter)
4. Sonia Igboanugo 08/2018-04/2019 BDC 4th year student
5. Christina Cerson 05/2019-08/2019 NSERC Summer student (co-supervised with Dr. Jose

Moran-Mirabal)

09/2020-04/2021 4th year thesis student (co-supervised with Dr. Jose

Moran-Mirabal)

1. Maiura Maralitharan 09/2019-04/2020 4th year thesis student
2. Kate Miyasaki 09/2019-04/2020 3rd year thesis student
3. Alisa Nykolayeva 06/2020-12/2020 Co-op student
4. Ansha Suleman 09/2020-04/2021 4th year thesis student
5. Kevin Dai 09/2020-04/2021 4th year thesis student
6. Clare Edwards 01/2021-08/2021 Co-op student

09/2021-04/2022 4th year thesis student

**Supervisory Committees (in progress)**

Kyle Jackson, MSc (Housseini-Doust, Chemical Engineering) 2021-ongoing

Amber Hann, MSc (Verdu, Biochemistry) 2020-ongoing

Anita Singh, MSc (Schertzer, Biochemistry) 2020-ongoing

Marie-Ange Massicotte, PhD (Coombes, Biochemistry) 2020-ongoing

Michael Huang, MSc (Schertzer, Biochemistry) 2020-ongoing

Anurag Bhalla, MSc (Nair, Medicine) 2020-ongoing

Summer Cho, MSc (Wright-MacNeil, Biochemistry) 2020-ongoing

Christian Bellissimo, PhD (Sloboda, Biochemistry) 2018-ongoing

Sabah Haq, MSc (Khan, Pathology) 2018-ongoing

Sarvatit Pate, MSc (Werstuck, Chemical Biology) 2018-ongoing

Shawna Thompson, PhD (Foster, Psychiatry) 2016-ongoing

Josh McGrath, PhD (Stampfli, Pathology) 2016-ongoing

Alex Qian, PhD (Trigatti, Biochemistry) 2016-ongoing

Katherine Kennedy, PhD (Sloboda, Biochemistry) 2015-ongoing

**Supervisory Committees (completed)**

Alexandra Parco, MSc (Coombes, Biochemistry) 2020-2021

Kaylyn Bacchiocchi, MSc (Bramson, Biochemistry) 2020-2021

Caressa Tsai, PhD(Coombes, Biochemistry) 2017-2021

Elizabeth Chau, PhD (Coombes, Biochemistry) 2016-2021

Mila Bjelica, MSc(Obeid, Kinesiology) 2019-2021

Marcus Rose, PhD (Fradin & Moran-Mirabal, Physics & Astronomy) 2019-2020

Inna Ushcatz, MSc (Obeid, Medicine) 2019-2020

Blerina Kadiu, PhD (Surette, Biochemistry) 2019-2020

David Hare, PhD (Mossman, Pathology) 2013-2020

Ken Mwawasi, PhD (Bramson, Pathology) 2015-2020

Trevor Lau, PhD (Schertzer, Biochemistry) 2015-2020

Gayatri Nair, MSc (Surette, Medical Sciences) 2018-2019

Alexis Bullock, MSc (Heisz, Kinesiology) 2018-2019

Maryam Vaseghi-Shanjani, MSc (Xing, Medical Sciences) 2017 - 2019

Bushra Ilyas, PhD (Coombes, Biochemistry) 2014 - 2019

Jeff Lam, MSc (Kaushic, Pathology) 2017 - 2019

Ophélie Quillier (Surette, Biochemistry) 2016 - 2018

Vi Dang, PhD (Werstuck, Biochemistry) 2014 - 2018

Jenna Dowhaniuk, MSc (Ratcliffe, Medicine) 2015 - 2017

Aric Huang, MSc (Werstuck, Biochemistry) 2016 - 2017

Sohail Mahmood, MSc (Ask, Pathology) 2014 - 2017

Emily Paolucci, MSc (Heisz, Kinesiology) 2016 - 2017

Brian Tuinema, PhD (Coombes, Biochemistry) 2014 - 2017

Sara Dizzel, MSc (Kaushic, Pathology) 2015 - 2017

Phil Staibano, MSc (Nazi, Medicine) 2015 - 2016

Michelle Mendoça, PhD (Surette, Biochemistry) 2011 - 2016

Stacey Muise, MSc (Boreham, Radiation Medicine) 2015 - 2016

Jessica Wallace, MSc (Sloboda, Biochemistry) 2015 - 2016

Jane McBride, MSc (Schertzer, Biochemistry) 2015 - 2016

Ashley Beaulieu, MSc (Stampfli, Pathology) 2015 - 2016

Sarah Karampatos, MSc (Maly, Rehabilitation Science) 2015 - 2016

Pamela Shen, PhD (Stampfli, Pathology) 2011 - 2016

Karissa Giraldi, MSc (Surette, Biochemistry) 2013 - 2015

Tatianna Wong, MSc (Gilberger, Biochemistry) 2013 - 2015

Ken Mwasi, MSc (Mahoney, Pathology) 2013 - 2014

Vi Dang, MSc (McCarry/Britz-McKibbin), Chemistry) 2013 - 2014

Alexandra Ruyter, MSc (Mahoney, Pathology) 2011 - 2013

Julie Kaiser, MSc (Surette, Biochemistry) 2011 - 2013

Tamara Krneta, MSc (Ashkar, Pathology) 2010 - 2012

Elena Pretus, MSc (Stampfli, Pathology) 2010 - 2012

Lauren Waller, MSc (Coombes, Biochemistry) 2010 - 2012

Elspeth Smith, MSc (Lichty, Pathology) 2010 - 2012

Josip Marcinko, MSc (Jordana, Pathology) 2009 - 2011

Devanghi Mehta, MSc (Mossman, Pathology) 2009 - 2011

**External Examiner** - **Comprehensive Examiner**

Mikela Eng September, 20, 2020 McMaster University

Danya Thayaparan April 30, 2019 McMaster University

Kyle Flannigan March 3, 2014 McMaster University

Varun Anipindi May 7, 2012 McMaster University

Bethany Heinrick July 15, 2010 McMaster University

Dannie Bernard June 5, 2009 McMaster University

**Comprehensive Exam advisor**

Alex Qian May 2019 McMaster University

Ken Mwawasi June 30, 2016 McMaster University

Pamela Shen May 8, 2013 McMaster University

**External Examiner-** **PhD Transfer**

Sophie Pozanski (Pathology) May 7, 2018 McMaster University

Daphne Lamarchée(Biochemistry) Jun 26, 2015 McMaster University

Uyen Nguyen (Biochemistry) Apr 29, 2013 McMaster University

Brian Tuinema (Biochemistry) Feb 7, 2013 McMaster University

Leticia Gonzalez Jara (Biochemistry) June 21, 2012 McMaster University

Carly Horvath (Pathology) July 7, 2010 McMaster University

Afia Aziz Ur Rehman(Medicine) Dec 17, 2010 McMaster University

**Chair-** **PhD Transfer**

John-Paul Oliveria June 13, 2013 McMaster University

**Chair-** **PhD Defence**

Dharneya Thayaparan June 29, 2021 McMaster University

Victor Ferriera November 6, 2014 McMaster University

**External Examiner-** **MSc defense**

Amy Moorhead September 24, 2020 McMaster University

Andrea Monjo December 8, 2016 Sir Wilfred Laurier University

Sarah Poynter August, 5, 2013 Sir Wilfred Laurier University

Joshua Kong September 16, 2013 McMaster University

Elena Pretus August 15, 2012 McMaster University

Elishka Pek July 3, 2009 McMaster University

Aman Thatte December 18, 2009 McMaster University

**External Examiner-** **PhD defense**

Sasha Doodnauth October 2020 University of Toronto

Kayla Campbell August 2020 Brown University

Ravi Holani March 2020 University of Calgary

Elena Mitsi December 2019 Liverpool School of Tropical Health, UK

Sara Roggensack November 2019 Tufts University, US

Victora Hippolito August 2019 University of Toronto

Angela Li February 2019 University of Toronto

Danielle Twum November 2018 Roswell Park Cancer Institute, US

Breanna Hodgins October 2018 McGill University

Jieun Kim February 2018 University of Toronto

Alyssa Cull February 2017 Queen’s University

Otto Strauss May 2016 University of Auckland, New Zealand

Emma de Jong December 2015 Murdoch University, Australia.

Amra Saric December 16, 2015 Ryerson University

Cameron Stuart McAlpine June 19, 2015 McMaster University

Paula Beaumont September, 12, 2014 University of Edinburgh, Scotland, UK

Aswin Hari October 30, 2013 University of Calgary

Kenneth Chalcraft March 20, 2013 McMaster University

Katherine J. Kasper January 30, 2013 University of Western Ontario

Amal Al-Gawari June 25, 2012 McMaster University

**Other contributions to teaching**

***Supervision of foreign/exchange students***

Lara Jaëske Sep 2019-Nov 2019 University of Rostock, Germany

Andrea Kellner Sept 2015- March 2016 University of Jena, Germany

Prashant Kalvapalie, MITACS summer exchange student (May-Aug 2013)

***Grade School***

Dundas Central – Grad 5 class “Food microbiology” (3 science classes) March-April 2019

Dundas Central – Grade 4 class “Dirt Microbiology” (2 science classes) March 2017, Oct 2018

Dundas Central-Grade 1 class “Good germs/bad germs” (2 science classes) January 2014

***High School students***

1. Anika Gupta (Sept 2017-May2018 & Sept 2018-May2019), High School Student, Bay Area Science and Engineering Fair project
2. Kazi Akther (August 2014), High School Student, winner of the IIDR internship for the Bay Area Science & Engineering Fair
3. Priynka Dhillon (August 2014), High School Student, winner of the IIDR internship for the Bay Area Science & Engineering Fair
4. Catharine Bowman, High School Student, performed a science fair project for the Bay Area Science and Engineering Fair (Jan- Mar 2014).
5. Eisha Ahmed, High School Student, competing in the International Science Fair (Apr -Aug 2013), supervised preparation for the International Science fair & hosted with Dr. Mike Surette for her receipt of the IIDR Summer Student Internship
6. Leonard Rivet, High School Student, member of Youth Engaged in Science (YES) Mentorship program (Sept 2012-June 2013, with Dr. Alba Guarné)
7. Jason Fan, High School Student, IIDR internship winner (May- Aug 2012)
8. Julia Lee, High School Student, member of Youth Engaged in Science (YES) Mentorship program (Oct 2009-Mar 2010)

***External teaching***

University of Guelph MICR\*4010 Bacterial Pathogenesis (1 lecture) January 2014

February 2015

February 2016

AstraZeneca, Mexico Invited lecture for clinicians and respirologists July 2021

“Innate Immunology of the lung”

***Other***

Mohammed Malik (Jan 2015-Aug 2015), Co-op student, Biotechnology program

Judge for Trainee presentations at the 1st Annual Perey Symposium (June 2014) and member of awards committee

Dessi Loukov, Co-op student, industrial student with Qu Biologics (May –Dec 2013)

**Research Funding:**

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| **Currently Held:** | | | |
|  | | | |
| 2021-04-01-  2022-03-31 | “Investigating Vaccine Access, Immunogenicity, Effectiveness, and Safety among South Asians in Ontario and British Columbia”  McMaster University:  PI: Sonia Anand  Co-PI: Shrikant Bangdiwala, Dawn Bowdish, Rahul Chanchlani, Russell De Souza, Sujane Kandasamy, Mark Loeb, Zubin Punthakee, Gita Wahl  University of Toronto/Public Health Ontario: Shelly Bolotin  Simon Fraser University: Scott Lear | | $1,472,727.00 |
| 2021-04-01-  2022-03-31 | “Vaccine Access, Uptake, Effectiveness and Safety in First Nations Communities”  McMaster University:  PI: Sonia Anand  Co-PI: Shrikant Bangdiwala, Dawn Bowdish, Russell De Souza, Sujane Kandasamy, Mark Loeb, Gita Wahl  Saskatchewan: Sylvia Abonyi  Six Nations Health Services: Lori Davis Hill, Sara Smith  Population Health Unit, La Ronge, Saskatchewan: James D. Irvine  Institut univ. de cardio et pneumo Qc (IUCPQ): Paul Poirier | | $1,497,597.00 |
| 2021-04-01-2023-03-31 | "Safety immUnogenicity of Covid-19 vaCcines in systEmic immunE mediated inflammatory Diseases (SUCCEED)”  McGill: S Bernatsky, I Colmegna  UHN/Sinai/Toronto: V Chandran, T Watts, A-C Gingras, N Haroon, R Inman, A McGeer, M Silverberg, B Kuriya  McMaster: D Bowdish, M Larche, S. Collins, J Marshall, S Garner, I Nazy  Manitoba: C Hitchon  Waterloo: R Cook  Calgary: G Kaplan, C Barnabe, B Hazelwood  Memorial: P Rahman  Sherbrook: G Boire  Laval: P Fortin | | $3,131,216.00  McMaster component $630,120.00 +18% overhead |
| 2021-04-01-2026-03-30 | Macrophage senescence impairs phagocytosis and phagosome function  PI: Dawn Bowdish  NSERC | | $250,000 ($50,000/year) |
| 2020-12-15-2022-06 | Immunologic and Facility-wide predictors of COVID-19 risk in Long Term Care  Co-PI- Andrew Costa & Dawn Bowdish  Canadian Immunity Task Force | | $5,000,000 |
| 2020-10-01-2021-01-31 | COVID-SPIT (Saliva Protocol Implementation Testing)  PIs: Eric Brown & Dawn Bowdish  Funders: Amica Senior Living & Juravinski Family Foundation | | $150,000 |
| 2020-05-31-2021-44-31 | Airway and systemic cellular and immune responses and lung mechanics in Covid-related acute lung injury  Hamilton Academic Health Sciences Organization  Co-Principle Applicants: Manali Mukherjee PhD, Parameswaran Nair, MD.  Co-applicants: Dawn Bowdish, PhD, Marek Smieja MD, Terence Ho MD | | $89,405.60 |
| 2020-05-25-2021-04-31 | Immune Phenotyping of Symptomatic and Asymptomatic SARS-CoV-2 Infection in Pregnant Women Admitted for Delivery in Hamilton Ontario  Hamilton Academic Health Sciences OrganizationPIs. J. Denburg & D. Bowdish | | $60,697.27 |
| 31-03-2020-02-27-2023 | Understanding whether the microbiome and upper respiratory tract immune responses contribute to infection or protection from infection, with SARS-CoV2  W. Garfield Weston Foundation  PIs. D. Bowdish & M. Surette. | | $298,940 |
| 31-03-2020-02-27-2023 | Harnessing the microbiota to promote healthy aging and prevent respiratory infections in older adults  W. Garfield Weston Foundation  PIs. D. Bowdish & M. Surette. | | $1,000,000 |
| 01-06-2020 – 01/06/2021 | Early life adversity increases the risk of invasive pneumococcal infection  Lung Health Foundation  Grant-in-Aid  PIs: D. Bowdish & D. Sloboda | | $50,000 |
| 01-01-2020 | Preclinical Studies in Aging Laboratory  Canadian Foundation for Innovation  John Evans Leadership Fund  and  Ontario Research Fund-Research Infrastructure (ORF-RI)  Ministry of Economic Development, Job Creation and Trade (MEDJCT) | | $356,483 |
| 01-03-2019-01-03-2022 | Using models of early life stress to identify prognostic biomarkers of unhealthy aging  CIHR Operating Grant: Geroscience Demonstration Grant  Co-investigators: Deborah Sloboda , Chris Verschoor, Laura Anderson, Jinhui Ma, Andrea Gonzalez, Dan Belsky | | $450,000 |
| 31/03/2018-1/02/2021 | Correlates of Healthy Aging in Geriatric HIV: CHANGE HIV STUDY.  Nominated Principal applicant: S. Walmsley  Principal Applicants: D. Bowdish, G. Guaraldi, G. Arbess, J. Falutz  S. Guillemi, M. Klein, M. Loutfy, K. Murzin, K. O’Brien, B. Rachlis, P. Rochon  Co-applicants: C. Kaushic, R. Kaul, G. Sebastiani, C. Verschoor  Leader of the microbiome core: D. Bowdish | | $2,487,249  $440,000 to the microbiome core |
| 1/09/2018-31/08/2023 | Age-associated inflammation alters myeloid cell development and function  Canadian Institutes of Health Research  Co-Investigators: Michael Rauh, Deborah Winter | | $983,025 |
|  |  | |  |
| 01/09/2016  -  30/08/2021 | Hugs for HEALTH (Healthy Gut Bugs for Healthy Babies) DOHaD Team: Maternal gut health and impacts on transgenerational obesity risk  Collaborator with Dr. Deborah Sloboda | | $1.5 million total  $25,000/yr to Bowdish in years 1-3 |
|  |  | |  |
| 2015-2023 | Ontario Research Fund  Solving the Antibiotic Resistance Crisis  Principal Applicant: Gerry Wright  Co-applicants: D. Bowdish, E. Brown, L. Burrows, B. Coombes, A. Capretta, N. Magarvey, M. Surette, D. Mertz, A. Savchenko, M. Organ | | $10,655,996  $75,000/yr to Bowdish in years 1-3 |
| **Previously held:** |  | |  |
|  | | | |  | $200,000,  $21,500 to Bowdish |
| 01/01/2015-01/01/2020  \*1 yr COVID extension | NSERC (National Science & Engineering Research Council of Canada) “Uncovering mechanisms of phagocytosis by class A scavenger receptors”  - **Principal Applicant** | $45,000/yr x 5yr | |
|  | Hit-to-lead optimization of the outer membrane disruptor  Glyconet Strategic Initiatives  Canadian Glycomics Network / Le Réseau Canadien de la Glycomique  PI: Eric Brown  Co-investigators: Jakob Magolan, D. Bowdish, C. Whitfield |  | |
| 15/09/2019-31/08/2020 | Mechanisms of age-associated inflammation and lymphoid neogenesis in the urinary bladder  NIH  PI: Indira Mysorekar | $26,000 USD | |
| 01/05/2015-31/04/2020 | Ontario Early Researcher Award  “Interplay between inflammation & impaired anti-bacterial immunity in the elderly”  **-Principal Applicant** | $100,000 total | |
| 1/8/2017-31/8-2019 | Mining the microbiota for novel immunotherapies  Collaborators: Dr. Mike Surette, Dr. Mark Loeb  Boris Family Foundation | $330,000 | |
| 1/6/2017-1/6/2019 | Dysregulation of regulatory T cells during chronic infection in muscle  R21 NIH #RAI128284A  Collaborator, Elizabeth Wohlfert (PI) | $0 | |
| 1/9/2017-1/9/2018 | Novel probiotics to promote healthy aging and reduce susceptibility to respiratory infections in the elderly  Co-PI: Dr. Mike Surette  Weston Family Microbiome Initiative  Garfield Weston Family Foundation | $150,000  $50,000 to Bowdish | |
| 01/04/2016-31/03/2018 | Ontario Brain Institute - Interdisciplinary Program  Province of Ontario Neurodevelopmental Disorders Network (POND)  Collaborator, Stelios Georgiades (PI) Jane Foster (co-PI), | $27,500 | |
| 06/01/17-05/31/18 | Arthritis National Research Foundation (ANRF) “Comparing the Regulatory Networks Underlying Inflammation in Arthritis & Aging “  PI: Deborah Winter  Co-Investigators: Dawn Bowdish, Harris Perlman | $100,000 ($5,000 to Bowdish) | |
| 01/07/2015 -30/06/2016 | Ontario Lung Association – Grant in Aid  Host-pathogen strain specificity as determinant in complicated pneumonia and pleural empyema  Collaborator with Dr. Mike Surette (PI) |  | |
| 01/08/2016-30/07/2017 | “The aging microbiome as a risk factor for developing pneumococcal pneumonia in mid- to late-life”  Ontario Lung Association  -Principal Applicant | $48,023 | |
| 09/01/2012-  03/01/2018 | Canadian Institute for Health Research (CIHR)  “Macrophage function changes with age and contributes to susceptibility to infectious disease”  **-Principal Applicant** | $1,047,395 total | |
| 09/01/2012-  08/01/2017 | Canadian Institute for Health Research (CIHR)  “The Viral toxin: understanding binding, internalization and signaling of dsRNA”  -co-Applicant with Karen Mossman | $ 709,615 total  $1500 to Bowdish | |
| 01/06/2014-31/05/2017 | Health Canada  Health Canada Biotechnology Initiative  “Enhanced Scientific Capacity for Risk Assessment of the  Pathogenicity Potential of Microbes Associated with Biotechnology”  -collaborator (Principal Applicants Drs. Philip S. Shwed, Azam F. Tayabali) | $316,000/yr x 3yrs  $6000 to D. Bowdish | |
| 01/01/2014-  01/01/2015 | Labarge Optimal Aging Initiative  “Establishing age-related chronic inflammation as a modifiable risk factor for poor immune function in the elderly”   * co-Applicant with Dr. Mark Loeb, Dr. Chris Verschoor, Dr. Guillaume Pare | $58,000 | |
| 01/01/2013-  01/01/2016 | Labarge Optimal Aging Initiative  “Probiotics to Prevent Respiratory Infections in the Elderly”   * co-Applicant with Dr. Mark Loeb, Dr. Jonathan Bramson, Dr. Mike Surette, Dr. Jennie Johnstone, Dr. Param Nair | $200,000 total | |
| 09/01/2010- 31/08/2015 | Canadian Institutes for Health Research (CIHR)  Emerging Team Grant  “Respiratory tract microbiome dynamics and the interplay of commensal bacteria with resident pathogens”  -**co- Applicant** with Dr. Mike Surette | $500,000 total | |
| 01/09/2010-31/08/2015 | Canadian Foundation for Innovation (CFI)  Leaders Opportunity Fund  “Drug Discovery in a post-antibiotic world: Infrastructure for development of novel immunomodulators  - **Principal Applicant** | $352,693 total | |
| 01/05/2010-31/04/2015 | NSERC (National Science & Engineering Research Council of Canada) “Novel signaling motifs in macrophage pattern recognition receptors”  - **Principal Applicant** | $33,000/yr x 5yr | |
| 010/2014-05/2015 | Industrial Contract – Qu Biologics  “SSI treatment as a novel immunotherapeutic” | $63,734.40 | |
| 03/01/2013-02/28/2015 | Canadian Institute for Health Research (CIHR)  Probiotics: Prevention of Severe Pneumonia and Endotracheal Colonization Trial (PROSPECT): A Feasibility and Proof of  Concept Pilot Trial  -co-applicant with Drs. Deborah Cook (PI), Daren Heyland, Jennie Johnstone, John Marshall, Maureen Meade, Mike Surette & Lehana, Thabane | $146,863/yr | |
| 03/01/2012-  02/28/2015 | Role of MARCO in Susceptibility & Resistance to Tuberculosis  Subcontract – Lead PI Kaori Sakamoto at University of Georgia | $29,000/yr x  3 yrs | |
| 03/31/2014  -  09/01/2014 | Connect Canada Internship awards supporting Kyle Novakowski (MSc student) and Dr. Chris Verschoor (PDF)  “Lung Cancer Diagnostic”  -co-applicant with Miami Mice | $20,000 | |
| 03/31/2014  -  09/01/2014 | Ontario Centres of Excellence  “Lung Cancer Diagnostic”  -co-applicant with Miami Mice | $20,000 | |
| 03/31/2014  -  09/01/2014 | NSERC-Engage  Quantitative immunoassay for TLE1 protein  **-Principal Applicant**  Industrial collaboration with Miami Mice | $25,000 | |
| 05/2013-12/2013 | Industrial Contract – Qu Biologics  “SSI treatment as a novel immunotherapeutic” | $25,200 | |
| 08/01/2012-  08/01/2013 | Ontario Lung Association-Pfizer Canada Research Award “Age-associated pneumonia results from impaired immune control of nasopharyngeal carriage”  **-Principal Applicant** | $50,000/yr | |
| 01/01/2012-01/05-2012 | Effects of pneumococcal colonization on SSI therapy  Industrial contract- Qu Biologics (Vancouver). | $25,575.68 x 0.5yrs | |
| 07/01/2010-  06/01/2013 | National Institutes of Health (NIH)  RO1- subcontract  “Control of *Streptococcus pneumoniae* carriage”  -co-applicant with Dr. Jeffrey Weiser | $50,000/yr x 3yr | |
| 01/01/2011 – 31/12/2011 | ASPIRE-Pfizer  New Investigator Award “Intranasal administration of Linezolid to prevent seasonal & post-influenza pneumococcal pneumonia in the elderly.” | $100,000/1yr | |
| 06/01/2010-05/31/2011 | Canadian Institutes for Health Research (CIHR)  Catalyst Grant  “Molecular mechanisms of monocyte/macrophage immunosenescence and susceptibility to *Streptococcus pneumoniae* infection in the nursing home elderly”  - **Principal Applicant** | $50,000/1yr | |
| 12/01/2010- 12/01/2011 | Ontario Lung Association  Grant-in-Aid  “Macrophage scavenger receptors – novel recognition receptors for *Mycobacterium tuberculosis”*  - **Principal Applicant** | $50,000/1yr | |
| 03/01/2010-31/03/2011 | CIHR (Canadian Institutes of Health Research)  “The role of macrophage function in prevention of *Streptococcus pneumoniae* infection in the nursing home elderly”  - **Principal Applicant** | $100,000/yr x 1 yr | |
| 01/5/2010-31/04/2011 | Institute for Infectious Disease Research (IIDR)  “Clinical markers of monocyte immunosenscence”  -Co- applicant with Dr. Jonathan Bramson & Dr. Jack Gauldie | $10,000/yr x 1 yr | |
| 05/2009-06/2010 | Institute for Infectious Disease Research, McMaster University, “Colonization vs Infection: Why aren’t macrophage responses to *Streptococcus pneumoniae* immunizing?”  - **Principal Applicant** | $20,000/yr x 1 yr | |
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**Patents**

* “Biological Membrane-Based Sensor” Maikel C. Rheinstädter, Sebastian Himbert, Richard J. Alsop, Jose M. Moran-Mirabal, Kevin Saem, Dawn M. E. Bowdish. U.S. Provisional Pat. Ser. No. 62/413,652, filed October 27, 2016
* Structured Glassy Surfaces for Use as Substrates for Immune Cell Assays. DME. Bowdish, J. Moran-Mirabal, J. Boyle, Y. Zhu. Disclosure agreement filed May 2016.
* Blockade of TNFalpha for treatment of age related tissue damage and impaired anti-bacterial activity. D. Bowdish & A. Puchta. Provisional patent filed May 23rd, 2014, Serial No. 62/002,40, 6.
* Effectors of innate immunity. R.E.W. Hancock, B. Finlay, M. Scott, D. Bowdish, C. Rosenberger and J.P. Powers. U.S. provisional patent No 60/336,632, filed Dec. 3, 2001 Full US application 10/308,905 filed Dec. 2, 2002; published Sept 16, 2004. US patent 7,507,787, granted March 24, 2009.
* Effectors of innate immunity. R.E.W. Hancock, B. Finlay, M. Scott, D. Bowdish, C. Rosenberger , J.P. Powers, N. Mookherjee, J. Yu. CIP of US application 10/308,905; Application no. US11/400,411, filed April 7, 2006.
* Effectors of innate immunity. R.E.W. Hancock, B. Finlay, M. Scott, D. Bowdish, C. Rosenberger and J.P. Powers. South African Patent No. 2004/4919, granted May 31, 2006.
* Effectors of innate immunity. R.E.W. Hancock, B. Finlay, M. Scott, D. Bowdish, C. Rosenberger and J.P. Powers. Australian Patent No. 200223365675, granted April 5, 2007.
* Effectors of innate immunity. R.E.W. Hancock, B. Finlay, M. Scott, D. Bowdish, C. Rosenberger and J.P. Powers. Chinese Patent No. 02827327.3, granted Dec 2, 2007.
* Effectors of innate immunity. R.E.W. Hancock, B. Finlay, M. Scott, D. Bowdish, C. Rosenberger and J.P. Powers. Hong Kong Patent HK1075677, granted August 22, 2008.

**Lifetime Publications (Peer reviewed, trainees in bold):**

**Contributions to books (Book chapters)**

1. Makaremi S, **Bowdish DME**, Moran-Mirabal JM (2019) “New Fluorescence Techniques for Studying Biomembrane Diffusion” in Methods in Signal Transduction, Ed. JMK Irudayaraj, CRC Press. In press.
2. Orihuela C, McElhaney J, **Bowdish DME**. Consequences of Pneumonia in Older Adults. In: Gu D, Dupre ME, eds. Encyclopedia of Gerontology and Population Aging. Cham: Springer International Publishing; 2019:1-8.
3. Rauh, M., Cook, E., **Bowdish, DME**. (2018) Myeloid-Derived Suppressor Cells in Aged Humans. In: Fulop T., Franceschi C., Hirokawa K., Pawelec G. (eds) Handbook of Immunosenescence. Springer, Cham. pp 1-12.
4. **Novakowski, KE., Loukov, D., Chawla, V., Bowdish, DME.** Assays for bacterial binding, phagocytosis and killing. Methods in Molecular Biology: Phagocytosis and Phagosome Maturation. Methods Mol Biol. 2017;1519:297-309. Editor: Roberto J. Botelho.
5. **Bowdish, D.M.E**., 2016. Macrophage Activation and Polarization. In: Ratcliffe, M.J.H.(Editor in Chief), Encyclopedia of Immunobiology, Vol. 1, pp. 289–292. Oxford Academic Press.
6. **Loukov, D., Naidoo, A., Bowdish, D.M.E**. (Aug 2015) Immunosenescence: implications for vaccination programs in the elderly. Vaccine: Development and Therapy. Volume 2015:5 Pages 17—29
7. **Lee, Keith M, Yin, Charles, Verschoor, Chris P, and Bowdish, Dawn ME**(Sep 2013) Macrophage Function Disorders. In: eLS. John Wiley & Sons Ltd, Chichester. http://www.els.net [doi: 10.1002/9780470015902.a0002174.pub3]
8. **Verschoor CP, Puchta A**, **Bowdish DME**. The Macrophage. Methods Mol Biol. (2012);844:139-56. doi: 10.1007/978-1-61779-527-5\_10.
9. **Bowdish, D.M.E**. & Gordon. S. Macrophage Function Disorders: a genetic perspective. Encyclopaedia of Life Sciences. (2009) DOI:10.1002/9780470015902.a0002174.pub2
10. **Bowdish, D.M.E**., Gordon, S. Introduction to macrophage biology. In: Protozoans in Macrophages. Landes Biosciences. Edited by E.Y. Denkers and R. Gazzinelli. (2007)1-15.
11. **Bowdish, D.M.E**., Davidson, D.J., Hancock, R.E.W. Immunomodulatory properties of defensins and cathelicidins. In: Current Topics in Microbiology and Immunology. Edited by W. Shafer (2006)306:27-66.

**Journal articles**

**Accepted/In press:**

**Journal Articles (published, trainees in bold):**

1. Stacey HD, Golubeva D, Posca A, Ang JC, **Novakowski KE**, Zahoor MA, Kaushic C, Cairns E, **Bowdish DME**, Mullarkey CE, Miller MS. IgA potentiates NETosis in response to viral infection. Proc Natl Acad Sci U S A. 2021 Jul 6;118(27):e2101497118.
2. **Teskey G**, Anagnostou E, Mankad D, Smile S, Roberts W, Brian J, **Bowdish DME**, Foster JA. Intestinal permeability correlates with behavioural severity in very young children with ASD: A preliminary study. J Neuroimmunol. 2021 Aug 15;357:577607.
3. **Breznik JA**, Foley KP, **Maddiboina D**, Schertzer JD, Sloboda DM, **Bowdish DME**. Effects of Obesity-Associated Chronic Inflammation on Peripheral Blood Immunophenotype Are Not Mediated by TNF in Female C57BL/6J Mice. Immunohorizons. 2021 Jun 4;5(6):370-383. doi: 10.4049/immunohorizons.2100038. PMID: 34088851
4. Marriott K, Chopp-Hurley J, **Loukov D**, Karampatos S, Kuntz AB, Wiebenga EG, Stratford PW, Noseworthy MD, **Bowdish DME**, Maly MR. Muscle strength gains after strengthening exercise explained by reductions in serum inflammation in women with knee osteoarthritis. Clin Biomech (Bristol, Avon). 2021 Jun;86:105381. doi: 10.1016/j.clinbiomech.2021.105381. Epub 2021 May 9. PMID: 34000629.
5. Huynh A, Arnold DM, Smith JW, Moore JC, Zhang A, Chagla Z, Harvey BJ, Stacey HD, Ang JC, Clare R, Ivetic N, Chetty VT, **Bowdish DME**, Miller MS, Kelton JG, Nazy I. Characteristics of Anti-SARS-CoV-2 Antibodies in Recovered COVID-19 Subjects. Viruses. 2021 Apr 16;13(4):697.
6. Huynh A, Arnold DM, Smith JW, Moore JC, Zhang A, Chagla Z, Harvey BJ, Stacey HD, Ang JC, Clare R, Ivetic N, Chetty VT, **Bowdish DME,** Miller MS, Kelton JG, Nazy I. Characteristics of Anti-SARS-CoV-2 Antibodies in Recovered COVID-19 Subjects. Viruses. 2021 Apr 16;13(4):697. doi: 10.3390/v13040697. PMID: 33923828; PMCID: PMC8073159.
7. Picard E, **Bowdish DM**, McElhaney JE, Pawelec G, Loeb M, Verschoor CP. The frequency of interleukin-1β-producing monocytes is significantly associated with varicella-zoster responses of nursing home residents. Clin Exp Immunol. 2021 Mar 13. doi: 10.1111/cei.13593.
8. **Bowdish D**, Desai TA, DePace A, Haswell ES, Baltrus D, García AJ, Deans T, Lage K, Wittkopp P.Leadership.Cell Syst. 2021 Jan 20;12(1):1-4. doi: 0.1016/j.cels.2020.12.004.
9. **Breznik JA**, **Schulz C**, Ma J, Sloboda DM**, Bowdish DME**. Biological sex, not reproductive cycle, influences peripheral blood immune cell prevalence in mice.J Physiol. 2021 Jan 17. doi: 10.1113/JP280637. Online ahead of print.
10. **Schenck LP**, McGrath JJC, Lamarche D, Stämpfli MR, **Bowdish DME**, Surette MG. Nasal Tissue Extraction Is Essential for Characterization of the Murine Upper Respiratory Tract Microbiota.mSphere. 2020 Dec 16;5(6):e00562-20. doi: 10.1128/mSphere.00562-20.
11. Banskota S, Wang H, Kwon YH, Gautam J, Gurung P, Haq S, Hassan FMN, **Bowdish DM**, Kim JA, Carling D, Fullerton MD, Steinberg GR, Khan WI.Salicylates Ameliorate Intestinal Inflammation by Activating Macrophage AMPK. Inflamm Bowel Dis. 2020 Nov 30:izaa305. doi: 10.1093/ibd/izaa305
12. **Makaremi S**, Rose M, Ranjit S, Digman MA, **Bowdish DME**, Moran-Mirabal JM. Lateral diffusion of CD14 and TLR2 in macrophage plasma membrane assessed by raster image correlation spectroscopy and single particle tracking. Sci Rep. 2020 Nov 9;10(1):19375. doi: 10.1038/s41598-020-76272-2.
13. Bhalla A, Mukherjee M, Radford K, Nazy I, Kjarsgaard M, **Bowdish DME**, Nair P. Dupilumab, Severe Asthma Airway Responses, and SARS-CoV2 Serology.Allergy. 2020 Aug 6:10.1111/all.14534. doi: 10.1111/all.14534.
14. Nieuwlaat R, Mbuagbaw L, Mertz D, Burrows L, **Bowdish DME**, Moja L, Wright GD, Schünemann HJ. COVID-19 and Antimicrobial Resistance: Parallel and Interacting Health Emergencies [published online ahead of print, 2020 Jun 16]. *Clin Infect Dis*. 2020;ciaa773. doi:10.1093/cid/ciaa773
15. Ligon MM, Wang C**, DeJong EN**, **Schulz C, Bowdish DME**, Mysorekar IU. Single cell and tissue-transcriptomic analysis of murine bladders reveals age- and TNFα-dependent but microbiota-independent tertiary lymphoid tissue formation. Mucosal Immunology. 2020.epub ahead of print
16. Banerjee, A., Zhang, X., Yip, A., Schulz,K.S., Irving, A., **Bowdish,D.**, Golding, B., Wang, L., Mossman,K. Positive selection of a serine residue in bat IRF3 confers enhanced antiviral protection.2020/3/2.iScience.100958
17. **Wallace JG,** **Bellissimo CJ**, Yeo E, Fei Xia Y, Petrik JJ, Surette MG, **Bowdish DME**, Sloboda DM. Obesity during pregnancy results in maternal intestinal inflammation, placental hypoxia, and alters fetal glucose metabolism at mid-gestation.Sci Rep. 2019 Nov 26;9(1):17621. doi: 10.1038/s41598-019-54098-x.
18. **Makaremi, S., Luu, H., Boyle, J. P**., Zhu, Y., **Cerson, C., Bowdish, D. M. E.,** Moran‐Mirabal, J. M., The Topography of Silica Films Modulates Primary Macrophage Morphology and Function. Adv. Mater. Interfaces 2019, 1900677. https://doi.org/10.1002/admi.201900677
19. Dowhaniuk JK, Szamosi J, Chorlton S, Owens J, Mileski H, Clause RF, Pernica JM, **Bowdish DME**, Surette MG, Ratcliffe EM.Starving the Gut: A Deficit of Butyrate in the Intestinal Ecosystem of Children With Intestinal Failure.JPEN J Parenter Enteral Nutr. 2019 Oct 22. doi: 10.1002/jpen.1715.
20. Karimi Y, Giles EC, Vahedi F, Chew MV, Nham T, **Loukov D**, Lee AJ, **Bowdish DM**, Ashkar AA. IFN-β signalling regulates RAW 264.7 macrophage activation, cytokine production, and killing activity. Innate Immun. 2019 Oct 15:1753425919878839. doi: 10.1177/1753425919878839.
21. J. Muscedere, P. M. Kim, J. Afilalo, C. Balion, V. E. Baracos, **D. Bowdish**, M. Cesari, J. D. Erusalimsky, T. Fülöp, G. Heckman, S. E. Howlett, R. G. Khadaroo, J. L. Kirkland, L. Rodriguez, Mañas E. Marzetti, G. Paré, P. Raina, K. Rockwood, A. Sinclair, C. Skappak, C. Verschoor, S. Walter, Canadian Frailty Network. Proceedings of the Canadian Frailty Network Workshop: Identifying Biomarkers of Frailty to Support Frailty Risk Assessment, Diagnosis and Prognosis. Toronto, January 15, 2018. J Frailty Aging (2019). https://doi.org/10.14283/jfa.2019.12
22. **Breznik JA, Naidoo A**, Foley KP, **Schulz C**, Lau TC, **Loukov D**, Sloboda DM, **Bowdish DME**\*, Schertzer JD\*. TNF, but not hyperinsulinemia or hyperglycemia, is a key driver of obesity-induced monocytosis revealing that inflammatory monocytes correlate with insulin in obese male mice. Physiol Rep. 2018 Dec;6(23):e13937. doi: 10.14814/phy2.13937. \*corresponding authors
23. Lamarche D, Johnstone J, Zytaruk N, Clarke F, Hand L, Rossi L, Szamosi JC, McDonald E, Meade MO, Marshall JC, **Bowdish DME**, Karachi T, Heels-Ansdell D, Cook DJ, Surette MG for the PROSPECT Investigators, Canadian Critical Care Trials Group & Canadian Critical Care Translational Biology Group. Microbial dysbiosis and mortality during mechanical ventilation: a prospective observational study. Respir Res 2018; 19:245. https://doi.org/10.1186/s12931-018-0950-5
24. Cavallari JF, Anhê FF, Foley KP, Denou E, Chan RW, Bowdish DME, Schertzer JD. Targeting macrophage scavenger receptor 1 promotes insulin resistance in obese male mice. Physiol Rep. 2018 Nov;6(22):e13930.
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**Review articles & Editorials**

1. **DeJong EN**, Surette MG, **Bowdish DME**. The Gut Microbiota and Unhealthy Aging: Disentangling Cause from Consequence.Cell Host Microbe. 2020 Aug 12;28(2):180-189. doi: 10.1016/j.chom.2020.07.013.
2. Surette MG, **Bowdish DME**. Loss of Microbial Topography Precedes Infection in Infants. Am J Respir Crit Care Med. 2019 Apr 12. doi: 10.1164/rccm.201903-0687ED (invited editorial)
3. **Bowdish DME**. The Aging Lung: Is lung health good health for older adults? Chest. 2018 Sep 22. pii: S0012-3692(18)32444-9. doi: 10.1016/j.chest.2018.09.003
4. Staibano P, Arnold DM, **Bowdish DM**, Nazy I. The unique immunological features of heparin-induced thrombocytopenia. Br J Haematol. 2017 Apr 3. doi: 10.1111/bjh.14603.
5. **Schenck, L.P.,** Surette, M.G**., Bowdish, D.M.E.** Composition and immunological significance of the upper respiratory tract microbiota. Invited Review. FEBS Lett. 2016 Oct 12. doi: 10.1002/1873-3468.12455.
6. Kline, KA & **Bowdish DME**. Infections in an Aging Population. Current Opinions in Microbiology. Curr Opin Microbiol. 2015 Dec 10;29:63-67. doi: 10.1016/j.mib.2015.11.003.
7. Lai, F., Lichty, B., **Bowdish, DME**. Microvesicles: Ubiquitous contributors to infection and immunity. J Leukoc Biol. 2014 Dec 3. pii: jlb.3RU0513-292RR.
8. Prabhudas M, **Bowdish D**, Drickamer K, Febbraio M, Herz J, Kobzik L, Krieger M, Loike J, Means TK, Moestrup SK, Post S, Sawamura T, Silverstein S, Wang XY, El Khoury J. Standardizing scavenger receptor nomenclature. J Immunol. 2014 Mar 1;192(5):1997-2006. doi: 10.4049/jimmunol.1490003.
9. **Whelan, FJ.,** Yap, N., Golding, B.  **Bowdish, DME.** Bioinformatics for Immunologists. Frontiers in Immunology. Frontiers in Immunology. 2014. 4, 416. doi: 10.3389/fimmu.2013.00416

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1. **Dorrington, MG**., **Bowdish, DME**. Immunosenescence and novel vaccination strategies for the elderly. Frontiers in Immunology (Editor Dr. Lorne Babiuk). 2013. doi:10.3388/immu.2013.00171
2. **Bowdish, D.M.E.** Gordon, S. Conserved domains of the class A scavenger receptors:evolution and function. Immunol Rev. 2009 Jan;227(1):19-31.
3. **Bowdish DM**, Loffredo MS, Mukhopadhyay S, Mantovani A, Gordon S. (2007) Macrophage receptors implicated I the “adaptive” form of innate immunity. Microbes infect. Nov-Dec; 9(14-15): 1680-7.
4. Gibbons, MA., **Bowdish, D.M.E**., Davidson, D.J., Salleneuve, JM., Simpson, A.J. Endogenous pulmonary antibiotics. Scott Med J. 2006 May;51(2):37-42.
5. **Bowdish, D.M.E.,** Hancock, R.E.W. 2005. Anti-endotoxin properties of cationic host defence peptides and proteins. 2005. J. Endotoxin Res. 11(4):230-6.
6. **Bowdish, D.M.E.,** Davidson, D.J., Hancock, R.E.W. 2004. A Re-evaluation of the role of host defence peptides in mammalian immunity. Curr Protein Pept Sci. 2005 Feb;6(1):35-51

**White Papers/Policy reports:**

1. National Institute on Ageing. (2019). As One of Canada’s Top Killers, Why Isn’t Pneumonia Taken More Seriously? Toronto, ON: National Institute on Ageing White Paper.<https://www.ryerson.ca/nia/white-papers/why-isnt-pneumonia-taken-more-seriously.pdf>
2. The Lung Association Ontario in partnership with the National Institute on Ageing. (2019) “Prevention: The Best Medicine. The Importance of Immunization to the Health of Seniors.”
3. The Lung Association Ontario. (2019) “Paving the way for Immunization Innovation”.

**Publications for a lay/broad audience**

1. **Grace Teskey, Cedoljub Bundalovic-Torma, Dawn Bowdish**; Age-associated inflammation alters the aging trajectory. Biochem (Lond) 1 February 2019; 41 (1): 22–25. doi: https://doi.org/10.1042/BIO04101022

**Figures**

1. **S Makaremi, H Luu, JP Boyle**, Y Zhu, C Cerson, **DME Bowdish**, JM Moran‐Mirabal… - Advanced Materials Interfaces, 2019. Plasma Membrane: The Topography of Silica Films Modulates Primary Macrophage Morphology and Function (Adv. Mater. Interfaces 21/2019)
2. S. Gordon. 2007. “Leukocyte migration” and “Phagocytosis & Autophagy” for: Macrophages and Phagocytosis. In: Fundamental Immunology 6th Ed. W. Paul Lippincott Raven. Publ. Philadelphia. Chapt 17.

**Presentations (Invited):**

1. Masoro-Barshop Conference on Aging. Virtual Conference – The Aging Immune System. “Systemic inflammation inhibits macrophage function and predisposes to infections”. October 15, 2021.
2. Systems Immunology in Aging and Complex disease. The Jackson Laboratories. Virtual Conference. “The microbiome in unhealthy aging.” September 9, 2021.
3. American Association of Immunologists. Summer School in Immunology. Washington, USA. “Myeloid Cells in Health & Disease”. July 27, 2021.( Virtual seminar, due to COVID-19 restrictions).
4. Vanderbuilt University Seminar Series. “Age-related changes in immunity & the microbiome predispose to infections” Aprile 18, 2021.
5. iWISE (Women in Science and Engineering) conference. “The myelopoeisis of @MsMacrophage:My career in microbes, macrophages, and more recently COVID-19”. Keynote. March 25, 2021
6. University of Birmingham. Institute of Inflammation and Ageing. “Age-related changes in immunity & the microbiome pre-dispose to infections”. March 10, 2021
7. Johns Hopkins Bloomberg School of Public Health. Department of Molecular Microbiology and Immunology “Age-related changes in immunity & the microbiome pre-dispose to infections”. February 11, 2021.
8. Wake Forrest University. Microbiology & Immunology Department Seminar Series “Age-associated inflammation impairs macrophage anti-pneumococcal immunity”. November 19, 2020
9. USC Leonard Davis School of Gerontology Seminar series. “Age-related microbial dysbiosis alters innate immune function and increases risk of infection”. October 21, 2020. (Virtual seminar due to COVID-19 restrictions).
10. University of California San Francisco Aging Science Symposium: Mechanisms of declining protective immunity despite heightened chronic inflammation during aging. “Secrets of the super-centenarians: the immunology of longevity”. October 15, 2020. (Virtual seminar due to COVID-19 restrictions).
11. Canadian Institute for Advanced Research (CIFAR). “Microbial Dysbiosis and Unhealthy Aging: Cause or Consequence?” September 30, 2020. (Virtual seminar due to COVID-19 restrictions).
12. Yale Pulmonary Research Conference. Yale University. “Secrets of the super-centenarians: The immunology of aging well”. September 24, 2020. (Virtual seminar due to COVID-19 restrictions).
13. VII International Meeting of Biosciences and Physiopathology. “The Unusual Immunology of COVID-19/SARS-CoV-2” September 16, 2020. (Virtual Seminar)
14. 24th Annual Immunet Research Day. University of Alberta. Keynote Presentation. “The myelopoesis of @MsMacrophage: My career in macrophages and microbes.” August 21, 2020. (Virtual seminar due to COVID-19 restrictions).
15. The Aging in Critical Care Interest Group & Lung Aging Research Working Group. “Promoting Recovery in Critically Ill Older Adults with COVID-19: Bench to Bedside” July 30, 2020. Panelist with Lekshmi Santhosh, MD and Leah Witt, MD.( Virtual seminar, due to COVID-19 restrictions). <https://www.thoracic.org/professionals/clinical-resources/critical-care/journal-club/promoting-recovery-in-critically-ill-older-adults-with-covid-19bench-to-bedside.php>
16. American Association of Immunologists. Summer School in Immunology. Washington, USA. “Myeloid Cells in Health & Disease”. July 27, 2020.( Virtual seminar, due to COVID-19 restrictions).
17. Life Sciences Seminar series. University of Nottingham. Nottingham, UK. “The role of inflamm-aging and immunosenescence in aging immune responses”. July 17,2020 (Virtual seminar, due to COVID-19 restrictions).
18. Lung Health Foundation. Toronto, ON. “Everything you wanted to know about SARS-CoV-2/COVID-19 but were afraid to ask.” June 25, 2020. (Virtual seminar, due to COVID-19 restrictions).
19. Infectious Disease-IIDR rounds. McMaster University. “The unusual immunology of SARS-CoV-2 infection.” June 2, 2020. (Virtual seminar due to COVID-19 restrictions).
20. Infection and Immunity Seminar series. University of Calgary. Calgary, Alberta. Age-related microbial dysbiosis alters innate immune function and increases risk of infection.”. March 5, 2020.
21. Biology of Aging Seminar Series. Yale University. New Haven, Connecticut. U.S. “Age-related microbial dysbiosis alters innate immune function and increases risk of infection.”. February 3, 2020.
22. Meakins-Christie Laboratories Seminar Series. McGill University, Montreal, Canada. “Age-related changes in the microbiome and susceptibility to pneumonia”. January 28, 2020.
23. British Thoracic Society Annual Winter Meeting. London, U.K. “Inflammageing and the microbiome in the lung”. December 4, 2019.
24. Department of Biomedical Sciences. Tufts University. Boston, US. “Microbial dysbiosis increases age-associated inflammation and susceptibility to pneumococcal infections”. November 12, 2019.
25. Centre for Critical Illness Research. Lawson Health Research Institute. University of Western Ontario. London, Ontario. October 29, 2019. “Age-associated inflammation contributes to susceptibility to infection.”
26. Biology of Ageing Symposium. Institute for Molecular Bioscience, University of Queensland. Brisbane, Australia. September 20, 2019."Microbial dysbiosis drives age-associated inflammation and macrophage dysfunction"
27. 14th World Congress on Inflammation. Sydney, Australia. September 16, 2019. “The aging microbiome contributes to age-associated inflammation and immunosenescence.”
28. Gordon Research Conference on Phagocytes. Waterville Valley, NH. USA. June 6, 2019. “Macrophage phagocytosis changes with age and chronic inflammation”
29. Washington University in St. Louis, Immunology Seminar Series. St. Louis, MO. May 24, 2019. “Age associated inflammation and microbial dysbiosis impair macrophage function”
30. International Infection, Immunity and Inflammation Conference (I4C). University of British Columbia. Vancouver, B.C. Canada. May 14-15, 2019. “Age-associated inflammation, macrophage function and longevity”.
31. Oklahoma Geroscience Symposium -The Role of Inflammation in Aging and Age-Associated Diseases, Oklahoma City, OK. April 24, 2019. “Role of the microbiome in inflammaging”.
32. University Health Network. Toronto, ON. April 15, 2019. “Age-associated inflammation and microbial dysbiosis alter the aging trajectory.”.
33. uOttawa Centre for Infection, Immunity and Inflammation (CI3). Ottawa, ON. March 29, 2019. “The aging microbiome contributes to age-associated inflammation and immunosenescence.”
34. University of Toronto. Department of Immunology. Toronto, ON. February 21, 2019. “Age-associated inflammation and the microbiota alter monocyte and macrophage function”
35. McMaster’s Central Animal Facility. February 14, 2019. “The Aging Immune System”.
36. Farncombe Insitute. McMaster University. February, 12, 2019. “Microbial dysbiosis and age-associated inflammation”.
37. North American Microbiome Conference. Washington, D.C. February 6th, 2019. “Employing aged mice as a model to study the long-term relationship between the immune system and the microbiome”
38. Better Breathing Conference. Toronto, Ontario. January 26, 2019. “Pneumonia in older adults”.
39. Chang Gung Memorial Hospital. Taipei, Taiwan. January 16, 2019. “Age-related microbial dysbiosis contributes to systemic inflammation and impaired macrophage function”.
40. McMaster Allergy & Immunology Rounds. December 14, 2018. “Myeloid immunophenotyping as a measurement of inflammatory tone”
41. Cedars-Sinai Immunology Seminar Series. Los Angeles, California. November 29, 2018. “Microbial dysbiosis drives age-associated inflammation and myeloid dysfunction.”
42. Roswell Park Comprehensive Cancer Centre. Department of Immunology. Buffalo New York. November 20, 2018. “Microbial dysbiosis drives age-associated inflammation and myeloid dysfunction.”
43. Society of Leukocyte Biology/ International Endotoxin Society Joint Meeting. Myeloid cells: Development, environment and inflammation. October 14-16, 2018. Chandler, Arizona, USA. “Microbial dysbiosis drives age-associated inflammation and impairs myeloid development.”
44. University of Alabama at Birmingham Microbiology and Immunology Seminar Series. “Age, inflammation and microbial dysbiosis contribute to susceptibility to pneumonia.” July 10th, 2018.
45. 31st Annual Canadian Society of Immunology Conference. June 2, 2018. London, ON. “Age-associated Inflammation Impairs Monocyte and Macrophage Development and Function”
46. Banff Conference on Infectious Disease. Banff, Canada. May 25, 2018. “Age-associated inflammation increases susceptibility to *Streptococcus pneumoniae* infection.”
47. 2018 Canada Gairdner Global Health Lecture Series -Planetary health through food and microbes. Friday May 4, 2018. “Novel strategies for preventing infectious disease”.
48. Canadian Trials Network Annual Meeting. April 24, 2018. Keynote talk “Aging less than gracefully: The microbiome drives age-associated inflammation and immune dysfunction.”
49. University of Manchester. Department of Immunology Seminar Series. February, 27, 2018. “Age-associated inflammation and microbial dysbiosis impair macrophage function and anti-microbial immunity.”
50. Experimental Human Pneumococcal Colonization (EHPC) Mid Term Programme Meeting. February 28, 2018. “Age-associated inflammation alters host defence to *Streptococcus pneumoniae*.”
51. Biology Department, University of Waterloo. February 9, 2018. “Pneumococcal infections: Lessons from the four corners of the world.”
52. Environmental Drivers of Aging: Proteostasis, Metabolism and Signalling Conference. NorthWestern University. January 12, 2018. “The aging microenvironment dictates monocyte phenotype and function”.
53. MRC Institute for Inflammation Research. Edinburgh, U.K. November 3, 2017. “Age-associated inflammation & microbial dysbiosis impair macrophage function and anti-microbial immunity”
54. International Conference on Respiratory Pathogens – The Molecular Biology of Bacterial and Viral Respiratory Pathogens. University of Greifswald, Rostock Germany. November 2, 2017. “Age and inflammation predispose to *Streptococcus pneumoniae* infection”. Keynote speaker.
55. Institute Pasteur. Immunology Seminar Series. October 13, 2017. “Metchnikoff’s theory of aging: Intestinal permeability drives age-associated inflammation and susceptibility to infection.”
56. Sick Kids Hospital. Molecular Medicine Seminar Series. Toronto, ON. October 2, 2017. “The microbiome drives age-associated inflammation and susceptiblity to pneumonia”
57. Firestone Institute Respirology Rounds. Firestone Institute of Respiratory Health. September 19, 2017. “Monocyte maturation is altered by age, inflammation and the microbiome and contributes to susceptibility to pneumonia”
58. Stanford University Immunology and Transplantation Department Seminar Series. August 16, 2017. “The microbiome drives age-associated inflammation and increases susceptibility to pneumonia.”
59. Invited Seminar. Abbvie Immuno-oncology group. Redwood City, California. August 15, 2017. “Age-associated inflammation alters monocyte development: implications for immunotherapy.”
60. Infectious Diseases/Microbiology Research Day. Keynote presentation. University of Toronto. June 20, 2017. “The microbiota drives age-associated inflammation and susceptibility to pneumonia.”
61. MedImmune, Gaithersburg, MD. “Age-related inflammation: causes and immunological consequences.” Mary 23, 2017.
62. American Thoracic Society Annual meeting. “Lung infection in an aging population” May 22, 2017.
63. Aging & Immunity Satellite Meeting to the American Association of Immunology. “Infections and changes in the microbiome with aging.” Bethesda, U.S. May 10, 2017
64. Quebec Annual Scientific Meeting for the Genome Quebec/ le Ministere e l’Economie de la Science et de l’Innovation (MESI) Scientific Advisory Board Meeting for project “Exploiting plant-made vaccines to protect the elderly against respiratory infections” Keynote presentation. “Age-associated inflammation alters inflammatory responses to respiratory pathogens”. May 4, 2017.
65. International Research Symposium Centred on Understanding and Preventing Infection in Children. Vancouver, BC. “The perils of inter-generational transfer of *Streptococcus pneumoniae.”* April 28, 2017.
66. NorthWestern University. Division of Pulmonary and Critical Care Medicine Invited Speaker Series. “The microbiome drives age-associated inflammation and myeloid immunosenescence” April 3, 2017.
67. Queen’s University. Department of Pathology & Molecular Medicine Seminar Series. “Aging less than Gracefully: Age-associated inflammation alters monocyte development and increases susceptibility to infection”. February 22, 2017.
68. Wilfred Laurier University. Department of Biology Seminar Series. “Aging less than Gracefully: Age-associated inflammation alters monocyte development and increases susceptibility to infection”. January 20, 2017
69. Firestone Respirology Research Christmas Rounds. “Kiss your grandmother: The perils of intergenerational contact during the holiday season.” December 13, 2016.
70. University of Toronto Immunology Speaker Series. “Age, inflammation and microbial dysbiosis conspire to impair anti-microbial immunity”. December 5, 2016.
71. Society for the Immunobiology of Cancer Annual International Meeting. “Myeloid-Derived Suppressor Cells (MDSC), Age and Cancer”. November 13,2016.
72. University of Maryland (UMB) Invited Speaker Series. “Aging less than gracefully: Inflammation and the microbiome impair antimicrobial activity.” November 9, 2016.
73. University of Georgia (UGA) Center for Vaccines & Immunology Seminar Series. “Age, infection & inflammation: More than the sum of their parts”. Georgia, Alabama. October 17, 2016.
74. The Society for Leukocyte Biology’s 49th Annual Meeting “The aging microbiota reprograms inflammatory Monocytes.” September 15-17, 2016.
75. Louisiana State University Invited Speaker Series. Baton Rouge, Louisianna. “Metchnikoff’s theory of aging: Intestinal permeability drives age-associated inflammation and susceptibility to infection” September 8, 2016.
76. Canadian Critical Care Trials Network. Halifax, NS. “Mechanistic Sub-study: Circulating Inflammatory and Immunomodulators in Critically ill patients in the PROSPECT trial” June 14, 2016.
77. PROSPECT Launch and Investigator meeting. Halifax, NS. “The potential of probiotics” and “Immunology for the Uninitiated” June 13, 2016. Informational sessions for research co-ordinators and nurses in the PROSPECT trial.
78. McMaster Geriatric Grand Rounds. Juravinski Hospital, Hamilton, ON. “Age–associated inflammation & susceptibility to *Streptococcus pneumoniae* infection” April 11, 2016.
79. Gordon Conference on Acute Respiratory Infections. Galveston, Texas. “Novel vaccination strategies for the elderly”. February 26, 2016.
80. Invited Speaker series. Department of Microbiology & Immunology. University of Buffalo. “Age, infection & inflammation: More than the sum of their parts.” November 18,2015.
81. Invited speaker series. Department of Biology, Ryerson University. “Aging less then gracefully: how macrophage function declines with age and contributes to susceptibility to infection.” October 22, 2015.
82. McMaster Institute of Geroscience Inaugural Symposium. “Age, infection & inflammation: More than the sum of their parts.” October 1, 2015.
83. Allergy & Immunology Rounds. McMaster University. “The microbiome drives age-associated inflammation.”” May 22, 2015
84. Province of Ontario Neurodevelopmental disorders network Science Day. “Inflammation, infection, cognition and age” May 8, 2015
85. Ottawa-Carleton Institute of Biology Student Conference. “Aging gracefully: how aging and immunity intersect.” Keynote speaker. April 29, 2015.
86. Buffalo Immunology Conference. Maryville NY. “The aging microbiome drives age-associated inflammation.” April 23-24, 2015.
87. EMPHASIS seminar series, McMaster University. Keynote speaker. “The metabolism of age-associated inflammation”. Keynote speaker. April 23, 2015.
88. University of Georgia Invited Speaker Series. “The role of phagocytic receptors in *Streptococcus pneumoniae* infections.” March 28, 2015
89. Keystone Symposia: Dendritic Cells and Macrophages Reunite. Workshop presentation “Metchnikoff’s theory of aging: Intestinal permeability drives age-associated inflammation and macrophage dysfunction.” Mar 8 -10, 2015, Montreal, QC.
90. Farncombe Institute of Digestive Health Seminar Series. “Age, inflammation & the microbiota: Why the choices that you make in youth haunt/help you in old age”. January 7, 2015
91. Biology of Aging Seminar Series. “Aging or inflamm-aging? Which causes immune decline with age?” McMaster University, Hamilton, ON. December 5, 2014.
92. Pfizer sponsored Research Exchange Meeting in conjunction with the Canadian Immunization conference. “Age-associated inflammation contributes to susceptibility to pneumococcal infection”. Ottawa, Ontario. December 3rd, 2014
93. Health Canada Invited speaker series. “Aging, inflammation and the microbiome”. Ottawa, Ontario. December 3rd, 2014
94. Labarge Optimal Aging Research Day. “Probiotics to prevent respiratory infections in the frail nursing home elderly. November 10, 2014.
95. Respiratory Research Rounds. Firestone institute. November 25 2014. “Age-associated inflammation impairs host-defence towards *Streptococcus pneumoniae*”
96. Nathan Shock Aging Center. “The microbiome drives age-associated inflammation.” San Antonio, Texas. October 18, 2014.
97. Albany Medical School. Invited Speaker Series. "Inflammation drives macrophage dysfunction and susceptibility to pneumococcal infection”. Sept 25, 2014
98. University of Guelph. Department of Pathobiology. Invited Speaker Series. “Macrophage scavenger receptors are required for control of colonization in the upper respiratory tract.” Sept 19, 2014
99. British Society of Immunology. Inflammation and Immunity. University of Manchester, UK. September 9-10, 2014. “Metchnikoff 's theory of aging: the intestinal microbiota drives age-associated inflammation and impaired macrophage function”
100. Federation of Clinical Immunology Societies (FOCIS) Annual Meeting. July 25-28, 2014. Chicago Illinois. “Phagocytosis, Endocytosis and Motility: Scavenger Receptor Functions at the Interface of Homeostasis and Host Defense.”
101. IIDR Colloquium. “A Breath of Fresh Air: Preventing pneumonia in older adults.” May 30, 2014. McMaster University.
102. The American Association of Immunologist Annual Meeting -Immunology 2014. May 2-6, 2014. Pittsburgh, Pennsylvania. “Scavenger receptors and host-pathogen interactions.”
103. iSci Symposium Keynote Speaker. McMaster University. Apr 3, 2014. “Pneumo a no no: Preventing pneumonia in older adults.”
104. Biology of Acute Respiratory Infection Gordon Research Conference. Feb 23-28, 2014. Lucca Italy. Invited speaker, “Pneumonia, inflammation and age.”
105. Lung Association. Better Breathing Conference. Pfizer sponsored keynote lecture “Age, inflammation and pneumonia.” February 2, 2014
106. McMaster University. Department of Chemistry & Chemical Biology Seminar Series. “Does macrophage metabolism decrease with age?” January 7th, 2014.
107. Vaccine Preventable Disease Program at Hamilton Public Health Services. November, 21, 2013. Hamilton. “Vaccine Hesitancy – why has the public turned against vaccines?”
108. University of Western Ontario Department of Microbiology & Immunology Invited Speakers Series. “Macrophage phagocytosis is required for control of nasopharyngeal colonization.” November 7th, 2013
109. McMaster Immunology Research Centre Infection & Immunity Seminar Series. May 29th, 2013. “Macrophages- my favourite cell.”
110. Panel on the Status of Women in Science & Technology. The Canadian Science Policy Centre. Panel participant. April 23rd, 2013. http://www.youtube.com/watch?v=18psL0ilZOk
111. Macrophage Immunobiology, Current Research and Prospects. Kavli Royal Society International Centre U.K. April 13, 2013. “Macrophage scavenger receptors and immune defence in the upper respiratory tract.”
112. MRC Centre for Inflammation Research Seminar Program. Edinburgh, U.K. April 12, 2013. “Interplay between chronic inflammation, age & anti-bacterial activity.”
113. Molecular & Integrative Physiological Sciences seminar series. Harvard School of Public Health. Boston, U.S. March 26th, 2013. “Macrophage phagocytosis - old cells protecting old people.”
114. Respiratory Research Rounds. Firestone institute. February 12th, 2013. “Phagocytosis & age-associated inflammation - an evolutionary approach.”
115. Scavenger Receptors Nomenclature Workshop, Division of Allergy, Immunology, and Transportation, National Institute of Allergy and Infectious Diseases , National Institute of Health, Bethesda, Maryland. November 29 - 30, 2012. "Scavenger Recepters and Host-Pathogen Interactions."
116. Demystifying Medicine Seminar Series, McMaster University, November 5, 2012. "Pneumonia, still the old man's friend?"
117. Infection and Immunity Seminar Series, McGill University. October 25, 2012. "Aging gracefully with the pattern recognition receptors."
118. South-Western Ontario Pathogenesis Working Group meeting. University of Guelph. September 29, 2012. “Those “other” pattern recognition receptors: Phagocytic receptors in host defence to *Streptococcus pneumoniae*.”
119. University of Calgary Invited Speaker. September 25, 2012. “The role of phagocytic receptors in recognition of *Streptoccus pneumoniae*.”
120. Firestone Institute. St. Joe’s Research Rounds. January 27, 2012. “Age-Associated Changes in Monocyte/Macrophage Function Predispose the Elderly to Infectious Disease.”
121. Department of Microbiology & Immunology. Queen’s University, Kingston. Jan 19, 2011. “Save the Grandparents! How an aging immune system predisposes the elderly to pneumonia.”
122. Department of Pathobiology. University of Guelph. Invited speaker series. Jan 14, 2011. “Mechanisms of Immune Control of *Streptococcus pneumoniae* in the Upper Respiratory Tract”.
123. Society for Leukocyte Biology/International Endotoxin Society Meeting. Vancouver. Oct 7, 2010. “Immunosenescent macrophages cannot control *Streptococcus pneumoniae* colonization, resulting in invasive pneumococcal disease"
124. Institute of Molecular Biology and Biochemistry (IBMB) Invited Speaker Series. “The Scavenger Receptors: Ancient Pattern Recognition Receptors essential for the innate immune response” University of Waterloo. January, 26, 2010.
125. Department of Chemical Engineering. Invited Speaker Series. McMaster University. Nov. 11, 2009 “Macrophage scavenger receptors: roles in adhesion, uptake & motility.”
126. IIDR Opening Symposium. McMaster University. Oct. 24, 2009. New insights into an ancient disease: A novel macrophage receptor essential for host defence towards tuberculosis.
127. Bench-to-Bedside. McMaster University. Sept. 21, 2009. “Recurrent Pneumococcal Infections: A breach in Innate Immunity”.
128. Bowdish, D. (2009), "Cationic peptides in innate immunity", in Gordon, S. (ed.), Innate Immunity: Host recognition and response in health and disease, The Biomedical & Life Sciences Collection, Henry Stewart Talks Ltd, London (online at <http://www.hstalks.com/?t=BL0612078-Bowdish>)
129. Invited speaker. The University of British Columbia. May 15, 2009`. “The Class A Scavenger receptors are associated with host defence to tuberculosis.”
130. Tuberculosis and International Child Health meeting. Imperial College London, U.K., March 7, 2008.“Macrophage Receptors in Innate Immunity: The class A scavenger receptors in mycobacterial and neisserial disease.”
131. The Karolinska Institute. Stockholm, Sweden. January 20, 2008. “Genetic analysis of the scavenger receptor, MARCO”.
132. The Whitechapel Society Invited Speaker Series. London, U.K. June 14, 2007. “MARCO – a macrophage receptor associated with mycobacterial infection”.
133. Invited Speaker Series. Trinity College, Dublin, Ireland. April 27, 2007. “MARCO – a macrophage receptor associated with mycobacterial infection”
134. 5th PhD Students Workshop. January 25, 2007. Riva del Gara, Italy. “Fundamental Concepts in Immunology”
135. 6th Annual Meeting of the Canadian Society of Microbiology. June, 21, 2006. “LL-37, a host defence peptide with immunomodulatory properties”.
136. Invited Speaker Series. University of Gothenburg, Sweden. March 3, 2006. “LL-37, a human host defence peptide with immunomodulatory properties”
137. Innate Immunity in Human Disease: BC Research Institute for Children’s & Women’s Health, February, 1, 2005. “LL-37 is a host defence peptide which interacts directly with monocytes & epithelial cells and modulates the innate immune response”
138. 8th Biennial Conference of the International Endotoxin Society, Kyoto, Japan, November 15-18, 2004. “The host defence peptide LL-37 is a multi-functional immunomodulator”
139. International Symposium SFB 617 – Molecular Mechanisms of Epithelial Defense, Kiel, Germany, June 11-13, 2004 “The Involvement of Peptides in Host Defense against Infections.”

**Community Engagement/Knowledge translation:**

1. Providing reliable information during the COVID pandemic.
   * Forums for policymakers
     1. “Protective immunity wanes in vaccinated long-term care residents” Invited presentations of my CITF funded work to the Vaccine Advisory group, which included representatives from PHAC, PHO and the Ontario Ministry of Health. These data were used to make recommendations for 3rd doses for long-term care residents in Ontario.
     2. “Ongoing immunology research in COVID-19”. Invited panelist for the Public Health Agency of Canada
     3. “COVID in long-term care” Province of Ontario Lung Health Caucus meeting hosted by the Lung Health Foundation. November 11, 2020
     4. “Influenza vaccination in the context of COVID-19/SARS-CoV-2” Province of Ontario Lung Health Caucus meeting hosted by the Lung Health Foundation. September 24, 2020
     5. “Vaccination & COVID-19”. Lung Health Forum for policymakers. July 9, 2020
   * Forums for residents of long-term care home, caregivers and employees
     1. “COVID-19 infections & vaccinations in long-term care homes” Town Hall for Schlegel Villages. April 28,2021
     2. “COVID-19 infections & vaccinations in long-term care homes” Town Hall for St. Joseph’s Villa. June 10, 2021
   * Podcasts
     1. Sickboy podcast: Busting myths about COVID-19 <http://sickboy.libsyn.com/busting-myths-about-covid-19-w-dr-dawn-bowdish>
     2. Futures podcast: http://thefutureof.libsyn.com/coronavirus-special
   * Television
     1. The National (CBC): Explaining who needs a 3rd dose of the COVID vaccine. August 18, 2021
     2. The Agenda with Steve Paikin: “In search of COVID-19 immunity” <https://www.tvo.org/video/in-search-of-covid-19-immunity>
     3. Talking about COVID-19 research projects on CHCH <https://www.chch.com/researchers-at-mcmaster-university-looking-into-different-ways-to-treat-the-coronavirus/>
   * Resources for teachers and parents during school re-opening:
     1. Can schools reopen safely? Infections in kids versus adults. <https://www.youtube.com/watch?v=Mu0_dwSSM2s>
        + Content used by the Globe & Mail: <https://www.theglobeandmail.com/canada/article-school-rules-that-send-children-home-with-any-symptoms-however-minor/>
   * Resources for media and journalists:
     1. Newswise information series for journalists. <https://www.newswise.com/coronavirus/video-and-transcript-newswise-live-covid-19-expert-panel-3-16-2020/?article_id=728409>
   * Print media:
     1. Scientific American –“What immunity to COVID really means” <https://www.scientificamerican.com/article/what-immunity-to-covid-19-really-means/>
        + Syndicated by the Irish Times, Slate and elsewhere <https://www.irishtimes.com/news/ireland/irish-news/coronavirus-in-ireland-what-we-know-so-far-1.4229011>
        + <https://slate.com/news-and-politics/2020/04/who-reports-coronavirus-testing-positive-recovery.html>
        + <https://www.advisory.com/daily-briefing/2020/04/15/3-questions-reopen-country>
   * Print news media:
     1. Explaining who needs booster shots now and will in the future.
        + <https://nationalpost.com/news/covid-booster-shots-are-being-rolled-out-for-all-americans-what-about-canada> (National Post and syndicates)
     2. Explaining my CITF funded research on vaccination responses in long-term care
        + <https://www.healthing.ca/diseases-and-conditions/coronavirus/vaccine-for-coronavirus/covid-third-shot-seniors>
        + https://www.insauga.com/ontarios-move-to-add-third-booster-for-seniors-backed-by-study-at-mcmaster-in-hamilton
     3. Explaining how vaccines protect and what you can/cannot do after vaccination
        + <https://www.caledonenterprise.com/news-story/10378649-can-grandparents-in-peel-see-their-grandkids-after-their-first-covid-vaccine-shot-/?fbclid=IwAR2FZm5M40Z1TjTX7CK7FFVzwfxa_ZYxBLQoTHYPJfPBjHURVROUNmekZTE>
     4. Explaining risks in long term care and in older adults
        + <https://www.cbc.ca/news/politics/covid19-long-term-care-facilities-2020-1.5631060>
     5. Explaining immune responses to SARS-CoV2/COVID-19
        + CBC: https://www.cbc.ca/news/health/covid19-immunity-canada-1.5704172
        + Slate:<https://slate.com/news-and-politics/2020/04/who-reports-coronavirus-testing-positive-recovery.html>
     6. Explaining testing strategies:
        + CBC <https://www.cbc.ca/news/politics/pandemic-covid-coronavirus-testing-1.5538781>
        + CTV <https://www.ctvnews.ca/health/coronavirus/lack-of-resources-led-to-limited-covid-19-testing-but-new-options-are-on-the-way-1.4891161>
        + <https://www.energeticcity.ca/2020/04/coronavirus-why-isnt-canada-using-blood-tests-for-covid-19/>
     7. Explaining infection risks/reopening strategies
        + Global News: <https://globalnews.ca/news/6789266/coronavirus-how-b-c-is-bending-the-curve-and-why-theres-hope-for-ontario-and-quebec/>
        + ABC news: <https://abc6onyourside.com/news/nation-world/no-metro-area-will-be-spared-officials-warn-more-cities-will-face-outbreaks>
        + Global news: <https://globalnews.ca/news/6768573/coronavirus-canada-missing-covid-19-cases/>

-syndicated <https://www.timminstoday.com/around-ontario/canada-how-long-will-coronavirus-measures-last-experts-say-june-or-july-2218658>

* + 1. Explaining age-related changes in immunity/susceptibility
       - Global News: <https://globalnews.ca/news/6770331/coronavirus-canada-families-grandparents-social-distancing/>
       - Zoomer: <https://www.everythingzoomer.com/health/2020/05/05/coronavirus-primer-what-we-know-and-what-we-dont-know-about-the-epidemic/>
       - Zoomer: <https://www.everythingzoomer.com/health/2020/08/19/your-nutritional-blueprint-to-better-health-as-you-age/>
    2. Discussion difficulties with the science supply chain
       - Global News: https://globalnews.ca/video/7406324/lab-supply-shortages-affecting-canadian-research-on-covid-19
  + Radio interviews:
    1. Series of syndicated interviews on defining a breakthrough infection and who is most likely to have them. CBC afternoon shows. August 18, 2021.
    2. Series of syndicated interview on what the 4th wave of COVID will look like in Canada. CBC Morning news shows. August 3, 2021.
    3. Series of syndicated interviews on what to expect for cold & flu season. CBC Morning shows. July 2021
    4. Newstalk 1010. Explaining why some studies show antibody levels to SARS-CoV-2 decrease with time. October 28, 2020.
    5. Series of syndicated interviews on ‘superspreading’ COVID-19. CBC Morning Shows. October 5, 2020
    6. Series of syndicated interviews on the COVID response in the 2020 Throne Speech. CBC Morning shows. September 24, 2020
    7. Explaining vaccine strategies: <https://963bigfm.com/news/6671901/coronavirus-canadian-company-covid-19-vaccine-candidate/>
    8. Explaining age-related changes in immune responses <https://q107.com/news/6656792/coronavirus-what-we-dont-know-about-covid-19/>
    9. Series of Syndicated interviews on the relative risk of opening bars, nightclubs and restaurants in the context of school reopenings. CBC Radio 1 Morning shows. July 15, 2020
  + Social Media
    1. Instagram Live on Vaccine Hesitancy with Dr. Zain Chagla https://www.instagram.com/p/CR2ZukOpH6Q/
    2. Explaining infection, immunity and how to keep a healthy immune for the Lung Health Foundation
       - <https://www.linkedin.com/company/lunghealthfoundation/>

1. Interview with The Toronto Star: “In the throes of a cold you do what makes you feel better. But are you treating the symptom or the disease?” (Syndicated in the St. Catharines Standard and elsewhere) <https://www.thestar.com/life/health_wellness/opinion/2019/11/04/in-the-throws-of-a-cold-you-do-what-makes-you-feel-better-but-are-you-treating-the-symptom-or-the-disease.html>
2. PROSPECT knowledge users meeting (research coordinators, nursing staff, and others). “Immune dysregulation and PROSPECT patient possible impact”. April 16, 2019.
   * I contributed to this educational session by explaining our findings on immune dysregulation in critically ill patients and describing how this affects patient outcomes.
3. Interview with Global news for article “Remember to get your vaccine booster — adults can lose immunity as they age” <https://globalnews.ca/news/5161169/vaccine-booster-adults-can-lose-immunity-age/>
4. Science on Tap. Hamilton, ON. “Secrets of the Super-Centenarians: What does it take to live a long (and healthy) life?” March 22, 2019.
   * This was a public lecture (100+ people) organized by the McMaster Graduate Students Union.
5. Dundas Central Public School. Hamilton, ON. “Food Microbiology”. March – April, 2019
   * This is a series of lessons designed to complement the grade 5 curriculum and to teach how pH, osmosis, filtration, acidity and pasteurization are used to kill microbes in food.
6. Amica Retirement Community. Hamilton, ON. “Why are older adults more susceptible to pneumonia and respiratory infections?”
7. Moderator at the Vaccination Policy Forum hosted by the Lung Association- Ontario. The purpose of this event was to provide up-to-date information on adult vaccinations to policy makers, health professionals and community groups. https://lungontario.ca/3712-2
8. Aldershot High School, I-STEM Program, Human Book Event. November 14, 2018.
   * I was a “human book” where the students could ask me anything about a career in STEM.
9. McMaster Undergraduate Student Lung Health Club. “Lung health research in the Bowdish lab and across campus”. November 13, 2018.
10. Spokesperson for the Canadian Lung Association’s pneumococcal vaccination campaign. October – November 2018.
    * Video series describing the importance of vaccination <https://www.facebook.com/OntarioLungAssociation/videos/596521740766963/>
    * Interviews with magazines targeted to older adults:

<https://www.everythingzoomer.com/health/2018/11/14/flu-and-pneumonia-prevention/>

* <https://www.youareunltd.com/2018/12/06/flu-shot-tick-now-get-vaccinated-to-protect-yourself-from-the-dangers-of-pneumonia/>

1. Donor Appreciation Day. June 19, 2018. Research participants were invited to the lab to hear a presentation on our progress, meet the trainees who performed the work and have a tour of the lab and facilities. https://mcmasteriidr.ca/2018/06/research-participants-honoured-at-bowdish-lab-donor-appreciation-day/
2. National Medical Laboratory Week. April 26, 2018. “The microbiome & aging: How the microbes that live on and in you conspire against you.”.
3. Dundas Library. “The Aging Immune System”. April, 9, 2018.
4. Series of 15 syndicated interviews for CBC radio commenting on a recent study (<http://rdcu.be/KwK5>) on germs in children’s bathtoys and our homes in general. April 3, 2018.
5. “Who’s got more cooties – boys or girls?”. February 22, 2018. Dundas Central School grades 3-5.
6. Westdale Library. “The Aging Immune System”. September, 19, 2017.
7. McMaster Women in Science and Engineering. Mentor of the Month. “Speaking as an expert…Finding your scientific voice and using it for the greater good.” June 21, 2017.
8. PROSPECT webinar. June 7th, 2017. “The role of the microbiome in immune dysfunction.”
9. McMaster Children and Youth University. “Who’s got more cooties, boys or girls?”. April 29, 2017.
10. Amica Retirement Community. December 12, 2013. “Health & the aging Immune system”. With Dessi Loukov.
11. McMaster Undergraduates in Research Association. December 1, 2016. “Opportunities for undergraduates in research”.
12. Lung Association Pop-up Park “Take a Breather” event. November 3, 2016. “Why I’m Taking a Breather with the Lung Association.”
13. PROSPECT (Probiotics for prevention of infection clinical trial) retreat. “The immunology of frailty and implications in the ICU”. October, 3, 2016. Talk for research co-ordinators, nurses and PIs of the PROSPECT clinical trial. Gravenhurst, ON.
14. Hamilton Association of Arts, Literature and Science. “Age, infection and inflammation”. September 10, 2016.
15. Public outreach event at Amica retirement community. “Age, infection and inflammation”. July 12,2016.
16. Deputation for the Standing Committee on Social Policy on Bill 41 – “The Lung Health Act will benefit older adults.” Queen’s Park, Toronto, ON. June 6, 2016.
17. The Human Book event, “Careers” edition. Halton District School Board. May 4, 2016.
    * At this event I was a “Human Book”. Participants could check me out for 20 min intervals and ask me questions about science or research. Media coverage by the radio station Y108. <http://www.hdsb.ca/library/docs/HumanLibrary.pdf>
18. The Cerebral Café – a discussion of Death & Disease. Hamilton, ON with Drs Ellen Badone, Megan Brickley and Ms Rochelle Martin.
19. Ontario Lung Association – Breathe Gala. January 28th, 2016. I was the MC for the major fundraising event for the Ontario Lung Association. This evening raised >$168,000 to support lung health research in Ontario.
20. Interview with Chatelaine magazine “8 things you can do every day to avoid the flu”. December 2015. http://www.chatelaine.com/health/flu-free-guide-immune-system/
21. Lobby day in support of Bill 41 “The Lung Health Act”. Queen’s Park, Toronto, ON. November 30, 2015
    * I, and some of my trainees, met with MPPs including Speaker of the House, MPP Dave Levac on the importance of establishing a Lung Health Act for Ontarians.
22. Interview in which I discuss the benefits of vaccination for older adults on [Metro Morning podcast, Thu Nov 12, 2015, Jfrom CBC Radio Toronto (Highlights). Released: 2015. Track 1. Genre: Podcast.](http://www.bowdish.ca/lab/?attachment_id=1858) and on London AM 960 The Pulse with Devon Peacock (airdate: Nov 13, 2015) click [here](http://www.bowdish.ca/lab/wp-content/uploads/2016/01/20151113-am980-thepulse-podcastlo.mp3).
23. Ontario Lung Association/Firestone Respiratory Health Institute joint presentation & fundraiser. “Introducing the Breathing as One campaign”. October,26, 2015
24. “Lung Health is Good Health in Older Adults”. Presentation hosted by the Lung Association for the Investors Group. August 25, 2015.
25. Research2Reality social media campaign. Research2Reality is a groundbreaking initiative that shines a spotlight on world-class scientists engaged in innovative and leading edge research in Canada. This video series is continually updated to celebrate the success of researchers who are establishing the new frontiers of science and to share the impact of their discoveries with the public. My video is featured here...http://research2reality.com/videos/immune-systems/
26. “Lung Health is Good Health in Older Adults”. Presentation to Hamilton Probus club. April 14, 2015.
27. “My career path as a scientist”. Westdale High School- Career day. Hamilton, Ontario. March 31, 2015.
28. Lung Association Breathe Gala. Interview in support of lung health. January 29, 2015.
29. Café Scientifique “Breathing Easy: Lung Health is Good Health for Older Adults”. Public event co-sponsored by the Ontario Lung Association and the Canadian Longitudinal Study of Aging. Hamilton, Ontario. November 27th, 2014.
30. Ontario Lung Association Board meeting. “Aging and Lung Health – spreading the word.” Toronto, ON. October 24, 2014.
31. McMaster Undergraduates in Research Association (MURSA). October 22, 2014. “Undergraduate opportunities in Research”
32. Presentation of donation from Gamma-Dynacare to the Lung Association. “Lung Health is Good Health in Older Adults” July 16, 2014
33. PROSPECT trial mechanistic sub-study retreat. “What are endotoxins and cytokines?” June 9, 2014.
34. Lung Association Webinar. “A Breath of Fresh Air: Preventing Pneumonia in Older Adults”. April 14, 2014.
35. MIRC Trainee Association Event. August 12, 2013. “Choosing a post-doctoral position, in Canada or overseas.”
36. Café Scientifique. Canadian Human Immunology Network. Hamilton, ON, April 26th, 2013. Panel speaker. “Vaccines: Truths and Myths.”
37. FHS Post-doctoral fellow association. June 5, 2013. “Advice on applying for a faculty position.”
38. Presentation for the Hamilton chapter of CAGIS (Canadian Association of Girls in Science). McMaster University. March 7th 2013. “Good germs/Bad germs.”
39. Biomedical Leadership conference. University of Guelph. January, 26th, 2013. “My career path: From McMaster & back again.”
40. McMaster Undergraduates in Research Association (MURSA). October 12, 2012. “Undergraduate opportunities in Research”