

Karen Vivien Lithgow, PhD

Pronouns: she/her

Assistant Professor

Dept. of Microbiology & Immunology, Faculty of Medicine
Dalhousie University, 5859 College St, B3H 4H7, Halifax, NS, Canada

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ACADEMIC APPOINTMENTS

Assistant Professor; Dept of Microbiology & Immunology
Faculty of Medicine, Dalhousie University 2025 - Ongoing

Postdoctoral Fellowship; Dept of Microbiology, Immunology & Infectious Diseases
Cumming School of Medicine, University of Calgary, Calgary, AB, CA 2020 - 2025
Supervisor: Dr. Laura Sycuro

EDUCATION

Degrees

Ph.D. in Biochemistry and Microbiology, Dept of Biochemistry & Microbiology
Faculty of Science, University of Victoria, Victoria, BC, CA 2014 – 2019
Supervisor: Dr. Caroline Cameron

B.Sc. Honours in Immunology and Infection
Faculty of Biological Sciences, University of Alberta, Edmonton, AB, CA 2008 – 2012

FUNDING & AWARDS

Research Funding

Canadian Institutes of Health Research (CIHR) Planning & Dissemination Grant \$19,999 2026-2027
"Can-STIMM: Canadian STI Mentorship & Knowledge Mobilization Program"

Co-Applicants: Dr. Caroline Cameron, Dr. Nitika Pant Pai, Dr. Anna Yeung, Sumudu Perera, Dr. Marissa Becker, Ana D'Aubeterre, Dr. Mara Goodyear

Collaborators: Dr. Marc Steben

Nominated Principal Applicant: **Dr. Karen Lithgow**

Dalhousie University Faculty of Medicine Capital Equipment Grant \$29,000 2026-2027
"Host-Microbe Interactions in the Female Genital Tract"

Principal Applicant: **Dr. Karen Lithgow**

National Institutes of Health; R21 Grant \$283,694 (USD) 2025-2027
*"Investigating *Treponema pallidum* pathobiology in the cervicovaginal niche"*

Principal Applicant: **Dr. Karen Lithgow**

Canadian Foundation for Innovation John R. Evans Leaders Fund \$411,088 total 2025-2027
"Investigating host-microbe interactions in the female genital tract"

Principal Applicant: **Dr. Karen Lithgow**

Nova Scotia Invest Early-Stage Commercialization Fund; \$50,000 2025-2026
"Modular microbe delivery platform for vaginal microbiome augmentation and restoration"

Principal Applicant: Dr. Brendan Leung

Co-Applicant: **Dr. Karen Lithgow**

Canadian Institutes of Health Research (CIHR) Project Grant \$1,300,000 2024-2029
"Defining the role of proteolysis in genital tract infections: from pathways to novel enzymes"

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Co-Applicants: **Dr. Karen Lithgow**

Collaborators: Dr. Alejandra Ugarte-Torres, Dr. Elianna Castillo, Dr. Joe Harrison, Dr. Julia Carter, Dr. Morley Hollenberg

Principal Applicants: Dr. Antoine Dufour, Dr. Laura Sycuro

Alberta Children's Health Research Institute Branch Grant (Funded) \$200,000 2022 – 2024

"Proteolytic remodelling and activation of uterine tissues as a trigger of infection-induced preterm labour"

Co-Applicants: **Dr. Karen Lithgow**, Dr. Stephen Wood

Principal Applicants: Dr. Donna Slater, Dr. Antoine Dufour

Nominated Principal Applicant: Dr. Laura Sycuro

CIHR Early Career Research Support Award (Funded) \$300,000 2021 – 2024

"Defining the role of proteolysis in genital tract infections: from pathways to novel enzymes"

Co-Applicants: **Dr. Karen Lithgow**, Dr. Morley Hollenberg

Collaborators: Dr. Alejandra Ugarte-Torres, Dr. Elianna Castillo, Dr. Joe Harrison, Dr. Julia Carter

Principal Applicants: Dr. Antoine Dufour, Dr. Laura Sycuro

Major Fellowships

Canadian Institutes of Health Research (CIHR) Postdoctoral Fellowship 2024-2025
\$70,000, \$5,000 development allowance (1 year)

Canadian Institutes of Health Research (CIHR) Banting Postdoctoral Fellowship 2022 – 2024
\$140,000; \$5,000 development allowance (2 years)

Alberta Innovates Postgraduate Fellowship 2020 – 2023
\$150,000; \$15,000 development allowance (3 years)

Cumming School of Medicine Beverley Phillips Rising Star Program 2020
Awarded \$50,000 (2 years), funds redistributed upon receipt of Alberta Innovates Fellowship

Major Scholarships

Natural Science and Engineering Research Council of Canada (NSERC) Alexander Graham Bell Canada Graduate Scholarship, Doctoral (CGS-D) 2016 – 2019
\$105,000 (3 years)

Natural Science and Engineering Research Council of Canada (NSERC) Canada Graduate Scholarship, Masters (CGS-M) 2014 – 2015
\$17,500 (1 year)

Awards & Recognitions

Young Investigator Oral Presenter Award 2023
STI & HIV 2023 World Congress

Best Oral Presentation Award 2023
Banff Conference on Infectious Diseases

Best Abstract and Oral Presentation Award 2021
Infectious Diseases Society for Obstetrics and Gynecology (IDSOG) Annual Meeting

Young Investigator Oral Presenter Award 2019
STI & HIV 2019 World Congress

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Provost's Advocacy & Activism Award
University of Victoria

2018

TEACHING & ADVISING

Teaching Experience

Guest Lecturer Dept of Microbiology & Immunology MICI 3119
Dalhousie University, Dept of Medical Microbiology & Immunology

2025

Preceptor MDSC 508 Honours Thesis & Research Communication Course
University of Calgary, Cumming School of Medicine

2020 – 2021; 2021 – 2022

Guest Lecturer Medical Microbiology & Immunology (MMI) 351
University of Alberta, Dept of Medical Microbiology & Immunology

2022, 2023, 2024

Teaching Assistant Microbiology 200A and B Laboratory
University of Victoria, Department of Biochemistry and Microbiology

2016, 2017

Teaching Assistant Biochemistry 301A and B Laboratory Teaching Assistant
University of Victoria, Department of Biochemistry and Microbiology

2014 – 2015

Advising Experience

Graduate Student Supervision

Student Name	Program Type	Start	Finish	Supervisory Role
Lauren Over	MSc	Sept 2025	Exp 2028	Primary supervisor, co-supervised by Dr. Zhenyu Cheng.

Undergraduate Student Supervision

Student Name	Role	Timeline	Supervisory Role
Catherine Radford	Summer Research Project Experiential Learning Student	Jan 2026 – Ongoing	Primary supervisor
Maddie Stevenson	Experiential Learning Student	Jan– April 2026	Primary supervisor
Julia Nelson	Summer Research Project Honours Research Project	May 2025 – May 2026	Primary supervisor

Graduate Student Thesis Committee

Student Name	Degree Type	Supervisor	Timeline
Nathan Purvis	Microbiology & Immunology, MSc	Dr. Nikhil Thomas	Sept 2025 - Ongoing
Abbey Saunders	Microbiology & Immunology, MSc	Dr. Morgan Langille	Sept 2025 - Ongoing
Aida Bagheri	Microbiology & Immunology, MSc	Dr. Amy Gillgrass	Sept 2025 – Ongoing
Merrit Kennedy	Biomedical Engineering, MSc	Dr. Brendan Leung	Sept 2025 – Ongoing

JOURNAL ARTICLES

In Review/In Press

1. **Lithgow, K.V.**, Cochinmogulos, A., Muirhead, K., Konschuh, S., Oluoch, L., Mugo, N.R., Roxby, A.C., Sycuro, L.K. (2023) Resolution of glycogen and glycogen-degrading activities reveals correlates of *Lactobacillus crispatus* dominance in a cohort of young African women. BioRxiv March 21 2022. Access the article [here](#).

2. Mathias, H., **Lithgow, K.V.**, Thomson, E.L.S., Tailfeathers, E., Hyshka, E. (2026) Using Health Service Data to Understand Unregulated Toxic Drug Deaths in Alberta (2018-2023): An Ecological Study. Health Promotion and Chronic Disease Prevention in Canada. *In Press*.
3. Sneller, M.M, Tapia, K., Mugo, N.R, Manhart, L.E., Ngure, K., Konschuh, S., **Lithgow, K.V.**, Oluoch, L.M., Sycuro, L.K., Roxby, A.C. Associations between vaginal *Lactobacillus* species and sexual activity in Kenyan adolescent girls. In Review at PLoS ONE.

Published

1. Mathias, H., Rushton, A., Dutton, S., Albanese, C. M., Foster, L. A., **Lithgow, K. V.**, Lee, J. B., Sander, B., Rytz, C. L., Nagpal, T. S., & Radin Pereira, L. (2026). Growing together: Reflections on Canada's first Interdisciplinary Women's Health Research Training Program. *Humanities and Social Sciences Communications*. Available [here](#).
2. Waugh, S, Goodyear, M.C., Gomez, A., Ranasinghe, A., **Lithgow, K.V.**, Falsafi, R., Hancock, R.E.W., Lee, A.H., Cameron, C.E. (2025) Time-course Transcriptomics Reveals the Impact of *Treponema pallidum* on Microvascular Endothelial Cell Function and Phenotype. *Frontiers in Microbiology* 15. Available [here](#).
3. Waugh, S., Ranasinghe, A., Gomez, A., Houston, S., **Lithgow, K.V.**, Eshighi, A., Fleetwood, J., Conway, K., Reynolds, L.A., Cameron, C.E. (2023) Syphilis and the Host; multi-omic analysis of host cellular responses to *Treponema pallidum* provides novel insight into syphilis pathogenesis. *Frontiers in Microbiology* 4:1254342 Access the article [here](#).
4. **Lithgow, K.V.**, Buchholz, V.C.H., Ku, E., Konschuh, S., D'Aubeterre, A., Sycuro, L.K. (2022). Protease activities of vaginal *Porphyromonas* species disrupt coagulation and extracellular matrix in the cervicovaginal niche. *npj Biofilm and Microbiomes*. 8, 8. Access the article [here](#).
5. **Lithgow, K.V.**, Tsao, E., Schovaneck, E., Gomez, A., Swayne, L.A., Cameron, C.E. (2021). *Treponema pallidum* disrupts VE-cadherin intercellular junctions and traverses endothelial barriers using a cholesterol dependent mechanism. *Frontiers in Microbiology*. 12: 1790. Access the article [here](#).
6. **Lithgow, K.V.**, Church, B., Gomez, A., Tsao, E., Houston, S., Swayne, L.A., Cameron, C.E. (2020). Identification of the neuroinvasive pathogen host target, LamR, as an endothelial receptor for the *Treponema pallidum* adhesin Tp0751. *mSphere*. 5: e00195-20. Access the article [here](#).
7. Houston, S., **Lithgow, K.V.**, Osbak, K.K., Kenyon, C.R., Cameron, C.E. (2018). Functional insights from proteome-wide structural modeling of *Treponema pallidum* subspecies pallidum, the causative agent of syphilis. *BMC Structural Biology*. 18(1): 7. Access the article [here](#).
8. Kao, W., Petrůsova, H., Ebady, R., **Lithgow, K.V.**, Rojas, P., Zhang, Y., Kim, Y.E., Kim, Y.R., Odisho, T., Gupta, N., Moter, A., Cameron, C.E., Moriarty, T. (2017). Identification of Tp0751 (pallilysin) as a *Treponema pallidum* vascular adhesin by heterologous expression in the lyme disease spirochete. *Scientific Reports*. 8(7):1538. Access [here](#)
9. **Lithgow, K.V.**, Hof, R., Wetherell, C., Phillips, D., Houston, S., Cameron, C.E. (2017). A defined syphilis vaccine candidate inhibits dissemination of *Treponema pallidum* subspecies pallidum. *Nature Communications*. 8: 14273. Access the article [here](#).
10. Osbak, K.K., Houston, S., **Lithgow, K.V.**, Meehan, C.J., Strouhal, M., Šmajš, D., Cameron, C.E., Ostade, X.V., Kenyon, C.R. (2016). Characterizing the syphilis-causing *Treponema pallidum* ssp. *pallidum* proteome using complementary mass spectrometry. *PLoS Neglected Tropical Diseases*. 10(9): e0004988. Access the article [here](#).
11. **Lithgow, K.V.**, Cameron, C.E. (2016). Vaccine development for syphilis. *Expert Review of Vaccines*. 16(1): 37-44. Access the article [here](#).
12. Parker, M., Houston, S., Petrůsova, H., **Lithgow, K.V.**, Hof, R., Wetherell, C., Kao, W., Lin, Y., Moriarty, T., Ebady, R., Cameron, C.E., Boulanger, M.J. (2016). The structure of *Treponema pallidum* Tp0751 (pallilysin) reveals a non-canonical lipocalin fold that mediates adhesion to extracellular matrix components and interactions with host cells. *PLoS Pathogens*. 12(9): e1005919. Access the article [here](#).
13. **Lithgow, K.V.**, Scott, N.E., Iwashkiw, J.A., Thomson, E.L.S., Foster, L.J., Feldman, M.F., Dennis, J.J. (2014). A general protein O-glycosylation system within the *Burkholderia cepacia* complex is involved in motility and virulence. *Molecular Microbiology*. 92(1): 116-37. Access the article [here](#).

CONFERENCE PRESENTATIONS

Invited Oral Presentations

Lithgow, K.V. Proteases from Vaginal *Prevotella* Species Modulate Endocervical Barrier Function. Having IMPACTT Symposium. Canmore, AB. June 3-5, 2-24.

Lithgow, K.V. Interactions of the *Treponema pallidum* adhesin Tp0751 with the host vascular endothelium. Invited oral presentation, Gordon Research Conference, Biology of Spirochetes. Ventura, CA. January 21-26, 2018.

Oral Presentations

Lithgow, K.V., Kenschuh, S., Markosky, A., Mugo, N.R., Roxby, A.C., Sycuro, L.K. Species-specific Differences in Glycogen Utilization Associate with Lactic Acid Levels in the Vagina Infectious Diseases Society of Obstetrics & Gynecology (IDSOG) Annual Meeting. Portland, OR, USA. Aug 1st-3rd, 2024.

Lithgow, K.V., Dufour, A., Sycuro, L.K. Secreted Proteases from Bacterial Vaginosis-Associated Bacteria Target Human MMPs and Modulate Endocervical Barrier Function. Infectious Diseases Society of Obstetrics & Gynecology (IDSOG) Annual Meeting. Denver, CO, USA. July 27th – 29th, 2023.

Lithgow, K.V., Dufour, A., Sycuro, L.K. Secreted Proteases from Bacterial Vaginosis-Associated Bacteria Target Human MMP-8 and Modulate Endocervical Barrier Function. Oral Presentation. STI & HIV World Congress, Chicago, IL, USA. May 24th – 27th, 2023.

Lithgow, K.V., Dufour, A., Sycuro, L.K. Secreted Proteases from Vaginal *Prevotella* Species Target and Activate Human MMPs and Modulate Endocervical Barrier Function. Oral Presentation. Canadian Society for Microbiology (CSM) Annual Meeting. Halifax, NS, CA. June 25th – 28th, 2023.

Lithgow, K.V., Muirhead, K., Kenschuh, S., Mugo, N.R., Roxby, A.C., Sycuro, L.K. Mechanisms of *Lactobacillus* Dominance and Pathogen Exclusion in the Cervicovaginal Niche. Oral Presentation. Banff Conference on Infectious Diseases, Banff, AB, CA. May 17th – May 21st, 2023.

Lithgow, K.V., Dufour, A., Sycuro, L.K. Secreted Proteases from Vaginal *Prevotella* Species Target and Mimic Human MMPs and Modulate Endocervical Barrier Function. Oral Presentation. Clara Christie Research Day, Calgary, AB, CA, May 12th, 2023.

Lithgow, K.V., Cochiamogulos, A., Muirhead, K., Kenschuh, S., Oluoch, L., Mugo, N.R., Roxby, A.C., Sycuro, L.K. Resolution of glycogen and glycogen-degrading activities reveals correlates of *Lactobacillus crispatus* dominance in a cohort of young African women. SciTalk presentation, Keystone Global Priorities in Vaginal Health eSymposia. November 10-12, 2021.

Lithgow, K.V., Buchholz, V., D'Aubeterre, A., Ku, E., Sycuro, L.K. Collagenase activity of vaginal microbes associated with preterm labour. Oral presentation, Infectious Disease Society of Obstetrics & Gynecology (IDSOG). July 29-30, 2021.

Lithgow, K.V., Buchholz, V., E., Kenschuh, S., Sycuro, L.K. Secreted proteolytic activity of bacterial vaginosis-associated bacteria. Oral Presentation, STI & HIV World Congress. July 14-16, 2021.

Lithgow, K.V., Buchholz, V., D'Aubeterre, A., Ku, E., Sycuro, L.K. Secreted protease activity of vaginal *Porphyromonas* species associated with preterm birth. Oral & poster presentation, Keystone Symposia The Microbiome: From Mother to Child. eSymposia. January 18-20, 2021.

Lithgow, K.V., Church, B., Moon, K., Houston, S., Boulanger, M.J., Burke, J.E., Swayne, L.A., Foster, L.F., Cameron, C.E. Basic science aids syphilis vaccine development; unravelling the molecular mechanisms used by the syphilis spirochete, *Treponema pallidum*, to spread via the bloodstream. Oral presentation, STI & HIV World Congress 2019. Vancouver, BC, CA. July 14-17, 2019.

Lithgow, K.V., Kao, W.C., Hof, R., Pětrošová, H., Rojas, P., Boulanger, M., Moter, A., Leong, J.M., Moriarty, T.J., and Cameron, C.E. Molecular mechanisms for the *Treponema pallidum* protein pallilysin (Tp0751) in adhesion to the vascular endothelium. Oral presentation. Gordon Research Seminar: Biology of Spirochetes, Ventura, CA. January 9-10, 2015.

Poster Presentations

Lithgow, K.V., Bagheri, S., Sycuro, L.S. Secreted proteolytic activity of vaginal *Prevotella* species remodels structural components of cervical and uterine tissues. Infectious Diseases Society of Obstetrics & Gynecology (IDSOG) Annual Meeting. Poster Presentation. Boston, MA. August 4-6, 2022.

Lithgow, K.V., Bagheri, S., Sycuro, L.S. Secreted proteolytic activity of vaginal *Prevotella* and *Porphyromonas* species remodels structural components of cervical and uterine tissues. Gordon Research Seminar and Conference: Proteolytic Enzymes and Their Inhibitors. Poster Presentation. Lucca, Italy. Jun 5-10, 2022.

Lithgow K.V., Cochinamogulos A., Muirhead K., Kenschuh S., Oluoch L., Mugo, N.R., Roxby, A.C., Sycuro, L.K. Resolution of glycogen and glycogen-degrading activities reveals correlates of *Lactobacillus crispatus* dominance in a cohort of young African women. Having IMPACTT 2: Advancing Microbiome Research. Banff, AB. June 2-3, 2022.

Lithgow, K.V., Church, B., Radisavljevic, N., Hof, R., Burke, J.E., Swayne, L.A., Cameron, C.E. Attachment of the *Treponema pallidum* adhesin Tp0751 to multiple endothelial cell types and identification of LamR as the target host receptor. Poster presentation, Gordon Research Seminar, Biology of Spirochetes. Ventura, CA. January 20-21, 2018.

Lithgow, K.V., Church, B., Radisavljevic, N., Hof, R., Burke, J.E., Swayne, L.A., Cameron, C.E. Attachment of the *Treponema pallidum* adhesin Tp0751 to multiple endothelial cell types and identification of LamR as the target host receptor. Poster presentation, Gordon Research Conference, Biology of Spirochetes. Ventura, CA. January 21-26, 2018.

Lithgow, K.V., Kao, W.C., Hof, R., Petrosova, H., Lin, Y., Boulanger, M.J., Moter, A., Leong, J.M., Moriarty, T.J., and Cameron, C.E. (2017). Interactions of the syphilis spirochete, *Treponema pallidum*, with the vascular endothelium. Poster presentation. STI & HIV World Congress 2017, Rio de Janeiro, Brazil. July 9-12, 2017.

Lithgow, K.V., Kao, W.C., Hof, R., Petrosova, H., Lin, Y., Boulanger, M.J., Moter, A., Leong, J.M., Burke, J.E., Moriarty, T.J., and Cameron, C.E. Interactions of the Syphilis Spirochete, *Treponema pallidum*, with the Vascular Endothelium. Poster presentation. Canadian Students Health Research Conference, Winnipeg, Manitoba. June 6-9, 2017.

Lithgow, K.V., Kao, W.C., Hof, R., Pětrošová, H., Rojas, P., Boulanger, M., Moter, A., Leong, J.M., Moriarty, T.J., and Cameron, C.E. Molecular mechanisms for the *Treponema pallidum* protein pallilysin (Tp0751) in adhesion to the vascular endothelium. Poster presentation. Gordon Research Conference: Biology of Spirochetes, Ventura, CA. January 10-15, 2015.

Lithgow, K.V., Houston, S., Russell, S., Hof, R., Smith, D.S., Burke, J.E., Borchers, C.H., and Cameron, C.E. Proteomic Characterization of vascular adhesins from the syphilis spirochete, *Treponema pallidum*. Poster presentation, Human Proteome Organization (HUPO) 14th Annual World Congress, Vancouver, BC. September 29, 2015.

Lithgow, K.V., Scott, N.E., Iwashkiw, J.A., Thomson, E.L.S., Feldman, M.F., and Dennis, J.J. A general O-linked glycosylation system of *Burkholderia cenocepacia*. Poster competition, Canadian Society of Microbiologists Annual Conference, Ottawa, ON. June 18-19, 2013.

Lithgow, K.V. and Dennis, J.J. *Burkholderia cepacia* complex pilin and OTase functionality. Poster presentation, Banff Conference on Infectious Diseases, Banff, Alberta. May 16, 2012.

INSTITUTIONAL PRESENTATIONS

Departmental Seminar Oral Presentations

University of Victoria Seminar Series

Enzymes from vaginal microbiota as modulators of endocervical susceptibility to sexually transmitted infections. Sept 25th, 2023.

International Microbiome Center Microbiome Seminar Series:

Resolution of glycogen and glycogen-degrading activities reveals correlates of *Lactobacillus crispatus* dominance in a cohort of young African women.

Feb 16, 2022.

University of Calgary, Snyder Institute of Infectious Diseases Seminar:

Lithgow, K.V. and Sycuro, L.K. Your baby, your body, your bacteria: impact of the microbiome on pregnancy outcomes. Aug 12, 2020.

University of Victoria, Department of Biochemistry and Microbiology Seminar:

Lithgow, K.V., Church, B., Burke, J.E., Swayne, L.A., Cameron, C.E. Interactions of *Treponema pallidum* adhesin Tp0751 with the human vascular endothelium. Oct 26, 2018

University of Victoria, Department of Biochemistry and Microbiology Seminar:

Lithgow, K.V. Molecular mechanisms for the *Treponema pallidum* protein pallilysin (Tp0751) in adhesion to the vascular endothelium. Oct 16, 2015.

Institutional Symposia Presentations

Lithgow, K. V. The Vaginal Microbiome in Health & Diseases. Infectious Disease Day/ Canadian Center for Vaccinology Conference. Invited Presentation. March 31st, 2026. Halifax, NS.

Lithgow, K.V., Buchholz, V., D'Aubeterre, A., Ku, E., Sycuro, L.K. Protease activities of vaginal bacteria disrupt coagulation and extracellular matrix in the cervicovaginal niche. Snyder Institute Research Day. Calgary, AB. Nov 5, 2021.

Lithgow, K.V., Church, B., Burke, J.E., Swayne, L.A., Cameron, C.E. Attachment of the *Treponema pallidum* adhesin Tp0751 to multiple endothelial cell types and identification of LamR as the target host receptor. Poster presentation, UVic Women in Science STEM Research Symposium. Victoria, BC. November 29, 2018.

Lithgow, K.V., Church, B., Radisavljevic, N., Hof, R., Burke, J.E., Swayne, L.A., Cameron, C.E. Attachment of the *Treponema pallidum* adhesin Tp0751 to multiple endothelial cell types and identification of LamR as the target host receptor. Oral presentation, University of Victoria Biochemistry and Microbiology Graduate Research Symposium. Victoria, BC, CA. February 16, 2018.

Lithgow, K.V., Kao, W.C., Hof, R., Petrošová, H., Lin, Y., Boulanger, M.J., Leong, J., Burke, J.E., Moriarty, T.J., and Cameron, C.E. Understanding bacterial interactions within the circulatory system: interactions of the syphilis spirochete with the vascular endothelium. Poster presentation, University of Victoria, UVic Women in Science STEM Research Symposium. Victoria, BC, CA. November 30, 2017.

Lithgow, K.V., Kao, W.C., Hof, R., Petrošová, H., Lin, Y., Boulanger, M.J., Leong, J., Burke, J.E., Moriarty, T.J., and Cameron, C.E. Understanding bacterial interactions within the circulatory system: interactions of the syphilis spirochete with the vascular endothelium. Poster presentation, University of Victoria, Center for Biomedical Research Biomedical Technology Industry Partnership Day. Victoria, BC, CA. November 3, 2017.

Lithgow, K.V., Kao, W.C., Hof, R., Pětrošová, H., Rojas, P., Boulanger, M., Moter, A., Leong, J.M., Moriarty, T.J., and Cameron, C.E. Molecular mechanisms for interactions of the *Treponema pallidum* protein Tp0751 with the vascular endothelium. Poster presentation. University of Victoria Biochemistry and Microbiology Graduate Research Symposium. Victoria, BC, CA. February 17, 2017.

Lithgow, K.V. Strategies for the syphilis spirochete, *Treponema pallidum*, in navigating the circulatory system. Pecha Kucha Biomedica and Poster Social, University of Victoria, Victoria, BC, CA. March 6, 2016.

Lithgow, K.V., Kao, W.C., Hof, R., Pětrošová, H., Rojas, P., Boulanger, M., Moter, A., Leong, J.M., Moriarty, T.J., and Cameron, C.E. Molecular mechanisms for the *Treponema pallidum* protein Tp0751 in adhesion to the vascular endothelium. Oral presentation. University of Victoria Biochemistry and Microbiology Graduate Research Symposium. Victoria, BC, CA. February 21, 2016.

Lithgow, K.V., Wetherell, C., Houston, S., and Cameron, C.E. Molecular mechanisms for *Treponema pallidum* proteases in penetration of the endothelial barrier. Poster presentation, Pecha Kucha Biomedica and Poster Social, University of Victoria. March 3, 2015.

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Lithgow, K.V., Wetherell, C., Houston, S., and Cameron, C.E. Molecular mechanisms for *Treponema pallidum* proteases in penetration of the endothelial barrier. Poster presentation, BCMB Graduate Symposium, University of Victoria. February 12, 2015.

Lithgow, K.V., Scott, N.E., Feldman, M.F., and Dennis, J.J. A general O-linked glycosylation system in *Burkholderia cenocepacia*. Oral presentation, R.E. Peter Biology Conference. University of Alberta. March 8, 2013.

Lithgow, K.V., Scott, N.E., Feldman, M.F., and Dennis, J.J. A general O-linked glycosylation system in *Burkholderia cenocepacia*. Poster presented at University of Alberta Undergraduate Research Symposium, Edmonton, AB. November 15, 2012.

COMMUNITY PRESENTATIONS

Invited Oral Presentations

The Vaginal Microbiome in Health & Disease

Education Session for Health Care Professionals at the Edmonton Birth Control Clinic. May 14th, 2025

The Vaginal Microbiome in Health & Disease

Education Session for Health Care Professionals at the Calgary Birth Control Clinic. Sept 28th, 2023

Calgary Women's Health Research Symposium:

Invited presentation. "The vaginal microbiome in sexual and reproductive health: from clinical observation to mechanistic advances." April 9, 2022.

Women in Science, Engineering, Trades, and Technology Leader Program

WinSETT Invited Speaker for Emerging Leaders session. February 15, 2018.

Centre for Biomedical Research, Café Scientifique

Invited speaker for general public presentation. Emerging biomedical research at UVic: cancer drugs, vaccines, detecting drugs and more. February 13, 2018.

SERVICE WORK

National & International Service Work

International Union Against Sexually Transmitted Infections (IUSTI)-World Education Committee Chair	2025 – Ongoing
International Union Against Sexually Transmitted Infections (IUSTI)-Canada Executive Board Member, Early Career Researcher	2024 – Ongoing
International Union Against Sexually Transmitted Infections (IUSTI) -World Scholarship Committee Co-Chair with Dr. Caroline Cameron	2024 – 2025
2025 STI & HIV World Congress Early Career Researcher Committee	2024 – 2025
STI & HIV World Congress Conference Promotion Committee	December – July 2019
Gordon Research Seminar, Biology of Spirochetes Discussion Leader, Mechanisms of Virulence and Disease Session	January 20-21, 2018
Gordon Research Seminar, Biology of Spirochetes Discussion Leader, Career Panel	January 20-21, 2018

Institutional Service Work

Executive Committee, Department of Microbiology and Immunology	2025 – Ongoing
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Snyder Institute Equity, Diversity & Inclusion (EDI) Action Group April 2022 – Sept 2025
Co-Founding Member

Snyder Institute Trainee Committee August 2021 – Sept 2025
Education Committee Co-Director

University of Victoria Women in Science (UVic WIS) January 2017 – January 2019
Co-founder and Co-President

University of Victoria Center for Biomedical Research (CBR) January 2015 – January 2019
CBR trainee executive member

University of Victoria Animal Care Committee (ACC) June 2015 – June 2016
Graduate student representative

Selection Committee for Molecular Microbiology/Immunology Faculty Position April 2016
University of Victoria; informal group interviews with 5 candidates and provided feedback to the department selection committee

Summer student research program, University of Alberta 2013
Co-founder of undergraduate research mentorship program

Conference, Symposium & Event Organization

Snyder Institute Trainee Committee December Research Day 2021, 2022, 2023
Symposium Co-Chair; University of Calgary

Snyder Institute Trainee Committee Summer Research Day 2021, 2022, 2023
Symposium Co-Chair; University of Calgary

Cumming School of Medicine Summer Student Workshops May, July 2022
Organized and delivered workshops focussed on “Equity, Diversity & Inclusion: Implicit Bias” and “Writing an Academic Abstract”; University of Calgary

UVic Women in Science STEM Research Symposium 2017, 2018
Co-chaired the symposium; University of Victoria

Women in Science, Engineering, Trades, and Technology Leader Program February 2018
Co-organized bringing this national program to the University of Victoria

Gordon Research Seminar, Biology of Spirochetes January 20-21, 2018
Discussion Leader, Mechanisms of Virulence and Disease Session & Career Panel

Outreach Activities

Cumming School of Medicine Discovery Days October 2022
Organized and delivered a presentation and microscopy workshop for visiting high school students

Snyder Institute for Chronic Diseases: Mini-Medical School Lecture March 7, 2022
“COVID-19 and the Immune System”
Moderator for public outreach lecture and panel discussion

Centre for Biomedical Research, Grad School Demystified January 30, 2018
Panel Discussion member; University of Victoria

Let’s Talk Science Impact of Scientists on Society Today Event March 14, 2017
Panelist for Women in STEM Career Panel; University of Victoria

ASSESSMENT & REVIEW ACTIVITIES

Journal Peer-Review

Peer Review 2025 - Ongoing
BMC Microbiology

KAREN V. LITHGOW, PhD

Peer Review November 2022 – Ongoing
Biomolecules

Peer Review January 2022 – Ongoing
Frontiers in Public Health

Co-Peer Review with Dr. Laura Sycuro 2021 – 2023
Frontiers in Cellular & Infection Microbiology

Co-Peer Review with Dr. Laura Sycuro 2021 – 2023
mSystems

Co-Peer Review with Dr. Caroline Cameron 2017 – 2018
PLoS ONE

Scholarship/Fellowship Review

Internal Scholarship Reviewer Doctoral Awards 2026
Faculty of Medicine, Dalhousie University

External Scholarship Review 2023, 2024
Tri-Council Canada Graduate Scholarships - Doctoral

Internal Scholarship Reviewer 2023 2024
Cumming School of Medicine, University of Calgary
Banting Postdoctoral Fellowship Internal Review and Applicant Mentorship

Internal Scholarship Reviewer September 2020-2025
Cumming School of Medicine, University of Calgary
Graduate Science Education Internal Review for Tri-Council and Internal Awards

Presentation Review

Poster Judge 2023
Banff Conference on Infectious Diseases

Poster Judge 2024
Having IMPACCT Annual Microbiome Conference