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Dr. Sebastien Faucher

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Contact Information

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Address

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Dr. Sebastien Faucher

Language Skills

Language	Read	Write	Speak	Understand	Peer Review
English	Yes	Yes	Yes	Yes	Yes
French	Yes	Yes	Yes	Yes	Yes

Degrees

- 2007/10 — Doctorate, Microbiology and Immunology, Université de Montréal
  Supervisors: Dr. France Daigle, 2003/5 - 2007/9
- 2003/6 — Bachelor's, Microbiology and Immunology, Université de Montréal

Recognitions

2017/5 - 2018/5
2017 Macdonald Campus Award for Teaching Excellence
McGill University
Prize / Award
Best teacher at McGill Macdonald Campus

User Profile

Research Specialization Keywords: Amoeba, Legionella pneumophila, Campylobacter jejuni, Macrophages, Microbial Interactions, Microbiome, Small RNA, Survival in water, Transcriptomic, Virulence

Employment

2017/6
Associate Professor
Natural Resource Sciences, Agricultural and Environmental Sciences, McGill University
Full-time, Associate Professor
Tenure Status: Tenure

2011/7 - 2017/5
Assistant Professor
Natural Resource Sciences, Agricultural and Environmental Sciences, McGill University
Full-time, Assistant Professor
Tenure Status: Tenure Track

2010/4 - 2011/6
Postdoctoral Fellow
Biochemistry, Medicine, McGill University
Full-time
Tenure Status: Non Tenure Track

2007/11 - 2009/12
Postdoctoral Fellow
Microbiology and Immunology, College of Physicians and Surgeons, Columbia University
Full-time
Tenure Status: Non Tenure Track

Research Funding History

Awarded [n=8]

2022/3 - 2024/3
Co-applicant
Prospecting for phage: developing new bioremediation tools through an integrative approach., Grant

Funding Sources:
Natural Sciences and Engineering Research Council of Canada (NSERC)
New Frontiers in Research Fund - Exploration
Total Funding - 200,000
Portion of Funding Received - 20
Funding Competitive?: Yes

2020/2 - 2024/1
Co-applicant
Integrated management of Legionella risk in cooling towers by rapid detection, innovative treatment and prevention of transmission, Grant

Funding Sources:
Natural Sciences and Engineering Research Council of Canada (NSERC)
Alliance Grants
Total Funding - 1,550,000
Portion of Funding Received - 25
Funding Competitive?: Yes

Principal Applicant : Michèle Prévost

2022/7 - 2023/12
Principal Applicant
Exploiting the power of whole genome sequencing for attribution of the source of Legionnaires' disease cases, Grant

Funding Sources:
Genome Quebec
Programme d'intégration de la génomique
Total Funding - 102,992
Portion of Funding Received - 100
Funding Competitive?: Yes

2022/1 - 2023/12
Principal Applicant
Miser sur la participation citoyenne pour identifier les facteurs d'efflorescences des cyanobactéries., Grant

Funding Sources:
Fonds de recherche du Québec - Nature et technologies (FRQNT)
Engagement
Total Funding - 45,000
Portion of Funding Received - 33
Funding Competitive?: Yes

2018/4 - 2023/3
Principal Applicant
Identification of genetic factors affecting the survival of Legionella pneumophila in water systems, Grant

Funding Sources:
Natural Sciences and Engineering Research Council of Canada (NSERC)
Discovery Grant
Total Funding - 250,000
Portion of Funding Received - 60

Funding Competitive?: Yes

2018/10 - 2022/9
Co-applicant

Aptamer-based surface plasmon resonance detection of Legionella pneumophila in water systems., Grant

Funding Sources:
Natural Sciences and Engineering Research Council of Canada (NSERC)
Strategic Partnership Grant Project
Total Funding - 469,900
Portion of Funding Received - 34
Funding Competitive?: Yes

Principal Applicant : Maryam Tabrizian

2019/5 - 2022/4
Co-applicant

Centre de recherche en infectiologie porcine et avicole (CRIPA), Grant

Funding Sources:
Fonds de recherche du Québec - Nature et technologies (FRQNT)
Strategic Cluster
Total Funding - 400,000
Portion of Funding Received - 5
Funding Competitive?: Yes

Principal Applicant : Carl Gagnon

2021/7 - 2021/12
Principal Applicant

Detection of Legionella pneumophila using aptamer-coated nanoparticles., Grant

Funding Sources:
Natural Sciences and Engineering Research Council of Canada (NSERC)
Alliance
Total Funding - 30,000
Portion of Funding Received - 100
Funding Competitive?: Yes

Completed [n=7]

2015/7 - 2020/3
Principal Applicant

Role of small regulatory RNAs expressed by the intracellular pathogen L. pneumophila., Grant

Funding Sources:
Canadian Institutes of Health Research (CIHR)
Open Operating Grant
Total Funding - 472,140
Portion of Funding Received - 100
Funding Competitive?: Yes

Co-applicant : Eric Masse; Petra Rohrbach

2014/3 - 2019/4
Co-applicant

Centre de recherche en infectiologie porcine et avicole (CRIPA), Grant

Funding Sources:
Fonds de recherche du Québec - Nature et technologies (FRQNT)
Strategic Cluster
Total Funding - 2,562,016
Portion of Funding Received - 100
Funding Competitive?: Yes

Principal Applicant : Carl Gagnon

2015/9 - 2018/8
Principal Applicant

Croissance de Legionella pneumophila dans les systèmes hydriques: comprendre la relation entre son génome et le microbiome, Grant

Funding Sources:

Fonds de recherche du Québec - Nature et technologies (FRQNT)
Team grant
Total Funding - 182,045
Portion of Funding Received - 100
Funding Competitive?: Yes

Co-applicant : Cécile Tremblay; Jacques Corbeil; Michèle Prévost

2012/4 - 2018/4
Principal Investigator

Identification of environmental and genetic factors affecting the survival of Legionella pneumophila in water, Grant

Funding Sources:
Natural Sciences and Engineering Research Council of Canada (NSERC)
Discovery Grant
Total Funding - 188,000
Portion of Funding Received - 100
Funding Competitive?: Yes

2014/9 - 2017/9
Co-applicant

Integrated on-chip microfluidic system with surface plasmon resonance biosensor for time-effective detection of Legionella pneumophila in contaminated water., Grant

Funding Sources:
Natural Sciences and Engineering Research Council of Canada (NSERC)
Strategic Project
Total Funding - 372,000
Portion of Funding Received - 19
Funding Competitive?: Yes

Co-applicant : Teodor Verres;

Principal Applicant : Maryam Tabrizian

2013/5 - 2017/4
Principal Applicant

Molecular characterization of the effect of environmental factors on bacterial pathogens., Grant

Funding Sources:
Canada Foundation for Innovation (CFI)
Leaders Opportunity Fund
Total Funding - 268,409
Portion of Funding Received - 100
Funding Competitive?: Yes

2014/3 - 2017/3
Principal Applicant

Identification de facteurs de risques pour la transmission de Campylobacter dans la chaîne de production., Grant

Funding Sources:
Ministère de l'Agriculture, des Pêcheries & de l'Alimentation (MAPAQ) (QC)
Innov'action
Total Funding - 150,000
Portion of Funding Received - 100
Funding Competitive?: Yes

Co-applicant : Ann Letellier; Philippe Fravalo; Steve Charette

Student/Postdoctoral Supervision

Bachelor's [n=9]

2022/4 - 2022/8
Principal Supervisor
Madison Schacter (In Progress) , McGill University
Thesis/Project Title: Legionella fitness following evolution against heat shock.
Present Position: Honours student, McGill University

2022/4 - 2022/8
Principal Supervisor
Karim Al-Itani (Completed) , McGill University
Thesis/Project Title: Phylogeny of Legionella pneumophila
Present Position: Unknown

2022/1 - 2022/4
Principal Supervisor
Gabriel Villard (In Progress) , McGill University
Thesis/Project Title: Phylogeny of Legionella
Present Position: Undergraduate student, McGill University

2021/9 - 2021/12
Principal Supervisor
Zixuan Lan (Completed) , McGill University
Thesis/Project Title: Aptamers for Legionella pneumophila
Present Position: PhD student, University of Toronto

2020/1 - 2020/4
Principal Supervisor
Berenice Saget (Completed) , McGill
Thesis/Project Title: Role of lpg0165 in the virulence of Legionella pneumophila.
Present Position: Master's La Sorbonne

2019/5 - 2020/4
Principal Supervisor
Fiona Chan Pak Choon (Completed) , McGill University
Thesis/Project Title: Characterization of the role of the small regulatory RNAs lpr29 and lpr62
Present Position: Graduate Student, McGIll, McGill University

2018/4 - 2018/9
Principal Supervisor
Mengqi Hu (Completed) , McGill University
Thesis/Project Title: Isolation of bacteria from a model cooling tower
Present Position: Unknown, Unknown

2016/4 - 2016/9
Principal Supervisor
Xue-Ming Zhu (Completed) , McGill University
Thesis/Project Title: Survival of L. pneumophila in cooling towers microbiome
Present Position: BSc student, McGill University

2015/9 - 2018/4
Principal Supervisor
Kristen Lee (Completed) , McGill University
Thesis/Project Title: Bdellovibrios and L. pneumophila
Present Position: Medical writer, Ic Axon

Bachelor's Honours [n=4]

2021/4 - 2022/4
Principal Supervisor
Michael Fiorini (In Progress) , McGill University
Student Degree Expected Date: 2022/4
Thesis/Project Title: Role of Tsp in Legionella
Present Position: Summer intern

2019/9 - 2021/4
Principal Supervisor
Kathryn Landry (Completed) , McGill
Thesis/Project Title: Isolation of water borne bacteria inhibiting Legionella growth.
Present Position: MSc Student, North Carolina State University

2019/9 - 2020/4
Principal Supervisor
Xin Yue Liu (Completed) , McGIll
Thesis/Project Title: Biofilm formation by water borne bacteria.
Present Position: Unknown

2015/9 - 2016/4 Veronique Cartier-Archambault (Completed) , McGill University
Principal Supervisor Thesis/Project Title: Role of oligotrophic bacteria on the survival of L. pneumophila in water
Present Position: Master's Student, University of Toronto

Master's non-Thesis [n=2]

2018/1 - 2018/4 Deanna Chinerman (Completed) , McGill University
Principal Supervisor Thesis/Project Title: Detection of Legionella pneumophila with aptamers
Present Position: PhD student, McGill University

2017/5 - 2017/12 Rownak Jahan (Completed) , McGill
Principal Supervisor Thesis/Project Title: Uridine metabolism in Legionella pneumophila
Present Position: Research Assistant, Caprion Bioscience

Master's Thesis [n=3]

2022/9 - 2024/8 Gillian Cameron (In Progress) , McGill University
Principal Supervisor Student Degree Expected Date: 2024/8
Thesis/Project Title: Legionella adaptation to freezing
Present Position: Graduate Student, McGill University

2017/9 - 2019/8 Adriana Torres (Completed) , McGill University
Principal Supervisor Thesis/Project Title: Growth of Legionella pneumophila in model cooling water tower
Present Position: Sustainable Finance Analyst, BNP Paribas

2017/9 - 2019/8 Malak Sadek (Completed) , McGill Universoty
Principal Supervisor Thesis/Project Title: Heat-shock response in L. pneumophila
Present Position: PhD student, University Western Ontario

Doctorate [n=9]

2022/9 - 2025/8 Maria Najeeb (In Progress) , McGill University
Principal Supervisor Thesis/Project Title: Role of horizontal gene transfer in the evolution of Legionella pneumophila.
Present Position: Graduate student, McGill University

2022/1 - 2024/5 Zineb Bazza (In Progress) , McGill University
Principal Supervisor Student Degree Expected Date: 2024/9
Thesis/Project Title: Citizen science to mitigate cyanobacterial bloom.
Present Position: PhD student McGill University

2020/9 - 2025/8 Elliston Vallarino Reyes (In Progress) , McGill University
Principal Supervisor Student Degree Expected Date: 2025/8
Thesis/Project Title: Response of Legionella to chlorine
Present Position: PhD student

2018/4 - 2023/4 Jeffrey Liang (In Progress) , McGill University
Principal Supervisor Student Degree Expected Date: 2023/4
Thesis/Project Title: Evolution of Legionella pneumophila in response to heat shock.
Present Position: PhD student

2016/2 - 2022/1 Mariam Saad (In Progress) , McGill University
Principal Supervisor Student Degree Expected Date: 2022/1
Thesis/Project Title: Detection of Legionella pneumophila
Present Position: PhD Student, McGill University

2016/1 - 2020/4 Principal Supervisor	Joseph Saoud (Completed) , McGill University Thesis/Project Title: Role of sRNAs in Legionella pneumophila Present Position: Analyst, Jubilant HollisterStier
2015/9 - 2020/5 Principal Supervisor	Kiran Paranjape (Completed) , McGill University Thesis/Project Title: Microbiome of cooling tower associated with the presence of Legionella pneumophila. Present Position: Postdoctoral Fellow, Uppsala University
2013/1 - 2016/9 Principal Supervisor	Laam Li (Completed) , McGill University Thesis/Project Title: Genetic determinants of the survival of Legionella pneumophila in water system. Present Position: Teaching Associate, The Hong Kong University of Science and Technology
2012/9 - 2017/7 Principal Supervisor	Nilmini Mendis (Completed) , McGill University Thesis/Project Title: Environmental factors affecting Legionella pneumophila survival in water and virulence Present Position: Postdoctoral Fellow, University of Guelph

Post-doctorate [n=3]

2020/1 - 2020/9 Principal Supervisor	Passoret Vounba (Completed) , McGill Thesis/Project Title: Microbial interaction in water systems. Present Position: Spécialiste en renforcement des capacités des laboratoires, Communauté Économique des États de l'Afrique centrale
2016/1 - 2018/12 Principal Supervisor	Thangadurai Mani (Completed) , McGill University Thesis/Project Title: Transfer of small regulatory RNAs form Legionella pneumophila to its host cell Present Position: Intellectual Property Officer, STEMCELL Technologies
2012/9 - 2017/4 Principal Supervisor	Hana Trigui (Completed) , McGill University Thesis/Project Title: Genetic determinants of the survival of L. pneumophila in water. Present Position: Research Associate, Polytechnique Montreal

Research Associate [n=3]

2021/1 - 2025/1 Principal Supervisor	Sara Matthews (In Progress) , McGill Thesis/Project Title: Legionella in water systems Present Position: Research associate, McGill
2019/4 - 2019/10 Principal Supervisor	Deeksha Shetty (Completed) , McGill University Thesis/Project Title: Role of small regulatory RNA in Legionella pneumophila Present Position: Research assistant, Genecis Bioindustries Inc.
2016/1 - 2019/9 Co-Supervisor	Émilie Bédard (Completed) , Polytechnique Montréal Thesis/Project Title: Copper resistance in Legionella pneumophila Present Position: Assistant Professor, Polytechnique Montréal

Editorial Activities

2021/1 - 2026/1	Editor, Microbiology Spectrum, Journal
2016/6 - 2021/1	Editorial board member, Scientific Reports, Journal
2014/1 - 2021/1	Editor, Canadian Journal of Microbiology, Journal

Committee Memberships

2021/9	Chair, Faculty Planning Committee, McGill University
2018/3 - 2020/6	Chair, Infection and Immunity Section, Canadian Society for Microbiologists
2015/7 - 2018/9	Chair, Committee on Academic Standing, McGill University
2014/9 - 2018/9	Chair, Departmental Safety Committee, McGill University
2016/6 - 2018/3	Co-chair, Infection and Immunity Section, Canadian Society for Microbiologists
2013/9 - 2017/8	Chair, Departmental Computer Committee, McGill University

Presentations

1. (2022). Evolution of Legionella pneumophila in water system: adaptation to superheat and flush. Eawag: Swiss Federal Institute of Aquatic Science and Technology, Dübendorf, Switzerland, Switzerland
   Main Audience: Researcher
   Invited?: Yes, Keynote?: No
2. (2022). Legiolert for detection and storage of various Legionella pneumophila subspecies. The 10th International Conference on Legionella, Yokohama, Japan
   Main Audience: Researcher
   Invited?: Yes, Keynote?: No
3. (2022). Adaptation of Legionella pneumophila to heat shock. Université de Montreal, Département de Microbiologie et d'Immunologie, Montreal, Canada
   Main Audience: Researcher
   Invited?: Yes, Keynote?: No
4. (2022). Searching for the missing strain causing multiyear community-acquired cases of Legionnaires' Disease. The 10th International Conference on Legionella, Yokohama, Japan
   Main Audience: Researcher
   Invited?: No, Keynote?: No
5. (2021). Toxoflavin produced by Pseudomonas alcaliphila inhibit the growth of Legionella pneumophila.Microbiology Society Annual Conference Online 2021, United Kingdom
   Main Audience: Researcher
   Invited?: No, Keynote?: No
6. (2018). Metagenome Sequencing Reveals a Cooling Tower's Microbiota Restricting the Growth of Legionella pneumophila. National Water and Wastewater Conference, Montreal, Canada
   Main Audience: Researcher
   Invited?: Yes, Keynote?: No
7. (2018). Génétique et Écologie de Legionella pneumophila.Université de Montréal, Département de Biologie, Montreal, Canada
   Main Audience: Researcher
   Invited?: Yes, Keynote?: No
8. (2017). Identification of Cooling Tower Microbiota Supporting the Growth of Legionella pneumophila. Legionella 2017, Rome, Italy
   Main Audience: Researcher
   Invited?: No, Keynote?: No

9. (2016). sRNA-mediated fine tuning of the stringent response is required for the survival of Legionella pneumophila in aquatic environment. 66th Annual Conference of the Canadian Society of Microbiologists, Toronto, Canada
Main Audience: Researcher
Invited?: Yes, Keynote?: No

Broadcast Interviews

2022/03/30 - 2022/03/30	Legionella pneumophila legislation in New Brunswick, Global News New Brunswick, Global News
2021/08/31 - 2021/08/31	Outbreaks of Legionnaires' disease in Moncton, NB, CBC News, CBC
2021/08/11 - 2021/08/11	Legionnaires' disease and cooling towers, Global News, Global
2012/08/30 - 2012/08/30	I was interviewed by Lauren Mccallum (CBC) about the Legionella outbreak of Quebec City. I gave her background information of Legionnaires' disease pathogenesis and I gave her my opinion on some political decision taken by the Quebec government., Part of the interview was broadcast on CBC Radio One (88.5 FM) on August 30, 2012 at 5:10 PM., CBC Radio One

Text Interviews

2019/05/22	Toxicity of mouthwash, Journal de Montréal
2017/01/15	Viable but non-culturable bacteria following UV desinfection, Chemical and Engineering News

Publications

Journal Articles

1. *Saad, Mariam; *Castiello, Rafael; Faucher, Sebastien; Tabrizian, Mariam. (2022). Introducing an SPRi-based titration assay using aptamers for the detection of Legionella pneumophila.Sensors and Actuators B: Chemical. 315: 130933.
Submitted
Refereed?: Yes, Open Access?: No

2. P, Faucher Sebastien; * Sara, Matthews; Arvin, Nickzad; * Passoret, Vounba; * Deeksha, Shetty; Émilie, Bédard; Michele, Prévost; Eric, Déziel; Kiran, Paranjape. (2022). Toxoflavin secreted by Pseudomonas alcaliphila inhibits the growth of Legionella pneumophila and Vermamoeba vermiformis. Water research. 216: 118328.
Published
Refereed?: Yes

3. *Matthews, Sara; Trigui, Hana; Grimard-Conea, Marianne; *Valarino Reyes, Elliston; Charron, Dominique; Bedard, Emilie; Faucher, Sebastien; Prevost, Michele. (2022). Detection of diverse sequence types of Legionella pneumophila by Legiolert enzymatic based assay and the development of a long-term storage protocol. Microbiology Spectrum. e02118-22
Published
Refereed?: Yes, Open Access?: Yes

4. *Paranjape, Kiran; Lévesque, Simon; Faucher, Sebastien P. (2022). Bacterial Antagonistic Species of the Pathogenic Genus Legionella isolated from Cooling Tower. Microorganisms. 10: 392.
Accepted
Refereed?: Yes, Open Access?: Yes

5. Margot, Cazals; Emilie, Bédard; Margot, Doberva; Sébastien, Faucher; Michèle, Prévost. (2022). Compromised Effectiveness of Thermal Inactivation of Legionella pneumophila in Water Heater Sediments and Water, and Influence of the Presence of Vermamoeba vermiformis. Microorganisms. 10(2)
Published
Refereed?: Yes

6. Liang, J.; Faucher, S. (2022). Transcriptomic Adaptation of Legionella pneumophila to Transient Heat Shock. Frontiers in Water. 4
Published
Refereed?: Yes, Open Access?: Yes

7. *Joseph, Saoud; * Thangadurai, Mani; Petra, Rohrbach; P, Faucher Sebastien. (2022). The tail-specific protease Tsp is required for Legionella pneumophila intracellular multiplication. Canadian journal of microbiology.
Published
Refereed?: Yes, Open Access?: Yes

8. *Saoud, J; *Mani, T; Faucher, SP. (2021). The Tail-specific protease is important for Legionella pneumophila to survive thermal stress in water and inside amoeba. Applied Environmental Microbiology. 87: e02975-20.
Published
Refereed?: Yes, Open Access?: No

9. *Saad, M; Faucher, SP. (2021). Aptamers and Aptamer-coupled Biosensors to detect Water-borne Pathogens. Frontiers in Microbiology. 12: 643797.
Published
Refereed?: Yes, Open Access?: Yes

10. Pariya, Darvishzadeh; Valérie, Orsat; P, Faucher Sebastien. (2021). Encapsulation of Russian Olive Water Kefir as an Innovative Functional Drink with High Antioxidant Activity. Plant foods for human nutrition (Dordrecht, Netherlands). 76(2): 161-169.
Published
Refereed?: Yes, Open Access?: No

11. Bédard, E; Trigui, H; *Liang, J; Doberva, M; *Paranjape, K; Lalancette, C; Allegra, S; Faucher, SP; Prévost, M. (2021). Local adaptation of Legionella pneumophila within a hospital hot water system increases tolerance to copper. Applied Environmental Microbiology. 87: e00242-21.
Published
Refereed?: Yes, Open Access?: No

12. *Saoud, J; Carrier, MC; Massé, E; Faucher, SP. (2020). The small regulatory RNA Lpr10 regulates the expression of RpoS in Legionella pneumophila.Molecular Microbiology. 115: 789-806.
Published
Refereed?: Yes, Open Access?: No

13. Lalancette C, Leduc JM, Malo J, Fournier E, **Saoud J, Faucher SP*, Pacheco AL, Bernard K, Martineau C, Lévesque S. (2020). Legionella quinlivanii strain isolated from a human: A case report and whole genome sequencing analysis. Official Journal of the Association of Medical Microbiology and Infectious Disease Canada. 5(2): 112-114.
Published
Refereed?: Yes, Open Access?: Yes

14. **Paniagua A., **Paranjape K., **Hu M., Bédard E., Faucher S. (2020). Impact of temperature on Legionella pneumophila, its protozoan host cells, and the microbial diversity of the biofilm community of a pilot cooling tower. Science of The Total Environment. 712: 136131 - 136131.
Published
Refereed?: Yes

15. **Paranjape K, Bédard E, **Shetty D, **Hu M, **Choon FCP, Prévost M, Faucher SP. (2020). Unravelling the Importance of the Eukaryotic and Bacterial Communities and their Relationship with Legionella spp. Ecology in Cooling Towers: A Complex Network.Microbiome. 8: 157.
Published
Refereed?: Yes, Open Access?: Yes

16. **Paranjape K, **Bédard É, Whyte LG, Ronholm J, Prévost M, Faucher SP. (2020). Presence of Legionella spp. in cooling towers: the role of microbial diversity, Pseudomonas, and continuous chlorine application.Water Research. 169: 115252.
Published
Refereed?: Yes, Open Access?: No

17. **Saad M, **Chinerman D, Tabrizian M, Faucher SP. (2020). Identification of two aptamers binding to Legionella pneumophila with high affinity and specificity. Scientific Reports. 10: 9145.
Published
Refereed?: Yes, Open Access?: Yes

18. Braun Rosalie S, Mendis Nilmini, Li Laam, Faucher Sebastien P. (2019). Quantification of Viable but Non-Culturable Cells of Legionella pneumophila. Methods in molecular biology (Clifton, N.J.). 1921: 45-53.
Published
Refereed?: Yes

19. **Bédard Emilie, **Paranjape Kiran, Lalancette Cindy, Villion Manuela, Quach Caroline, Laferrière Céline, Faucher Sebastien P, Prévost Michèle. (2019). Legionella pneumophila levels and sequence-type distribution in hospital hot water samples from faucets to connecting pipes. Water research. 156: 277-286.
Published
Refereed?: Yes

20. **Giannakopoulou Natalia, **Mendis Nilmini, Zhu Lei, Gruenheid Samantha, Faucher Sebastien P, Le Moual Hervé. (2018). The Virulence Effect of CpxRA in Is Independent of the Auxiliary Proteins NlpE and CpxP. Frontiers in cellular and infection microbiology. 8: 320.
Published
Refereed?: Yes

21. **Mendis Nilmini, **Trigui Hana, **Saad Mariam, **Tsang Adrianna, Faucher Sébastien P. (2018). Deletion of oxyR in Legionella pneumophila causes growth defect on agar. Canadian journal of microbiology. 64(12): 1030-1041.
Published
Refereed?: Yes

22. **Mendis Nilmini, **McBride Peter, **Saoud Joseph, **Mani Thangadurai, Faucher Sebastien P. (2018). The LetA/S two-component system regulates transcriptomic changes that are essential for the culturability of Legionella pneumophila in water. Scientific reports. 8(1): 6764.
Published
Refereed?: Yes

23. Melaine F, **Saad M, Faucher S, Tabrizian M. (2017). Selective and High Dynamic Range Assay Format for Multiplex Detection of Pathogenic Pseudomonas aeruginosa, Salmonella typhimurium, and Legionella pneumophila RNAs Using Surface Plasmon Resonance Imaging. Analytical chemistry. 89: 7802-7807.
Published
Refereed?: Yes

24. **Li Laam, Faucher Sébastien P. (2017). Role of the LuxR family transcriptional regulator Lpg2524 in the survival of Legionella pneumophila in water. Canadian journal of microbiology. 63(6): 535-545.
Published
Refereed?: Yes

25. **Trigui H, **Lee K, Thibodeau A, Lévesque S, **Mendis N, Fravalo P, Letellier A, Faucher SP. (2017). Phenotypic and transcriptomic responses of Campylobacter jejuni suspended in an artificial freshwater medium. Frontiers in Microbiology. 8: 1781.
Published
Refereed?: Yes, Open Access?: Yes

26. Tanner Jennifer R, **Li Laam, Faucher Sébastien P, Brassinga Ann Karen C. (2016). The CpxRA two-component system contributes to Legionella pneumophila virulence. Molecular microbiology. 100(6): 1017-38.
Published
Refereed?: Yes

27. **Bédard Emilie, Lévesque Simon, Martin Philippe, Pinsonneault Linda, **Paranjape Kiran, Lalancette Cindy, Dolcé Charles-Éric, Villion Manuela, Valiquette Louis, Faucher Sébastien P, Prévost Michèle. (2016). Energy Conservation and the Promotion of Legionella pneumophila Growth: The Probable Role of Heat Exchangers in a Nosocomial Outbreak. Infection control and hospital epidemiology. 37(12): 1475-1480.
Published
Refereed?: Yes, Open Access?: Yes

28. **Li Laam, Faucher Sébastien P. (2016). The Membrane Protein LasM Promotes the Culturability of Legionella pneumophila in Water. Frontiers in cellular and infection microbiology. 6: 113.
Published
Refereed?: Yes, Open Access?: Yes

29. **Trigui Hana, Paquet Valérie E, Charette Steve J, Faucher Sébastien P. (2016). Packaging of Campylobacter jejuni into Multilamellar Bodies by the Ciliate Tetrahymena pyriformis. Applied and environmental microbiology. 82(9): 2783-90.
Published
Refereed?: Yes

Conference Publications

1. Sara Matthews, Hana Trigui, Marianne Grimard-Conea, Elliston Vallarino Reyes, Dominique Charron, Émilie Bédard, Sébastien Faucher and Michèle Prevost. (2022). Capturing many sequence types of Legionella pneumophila and long-term storage method with Legiolert. The 10th International Conference on Legionella, Yokohama, Japan
Conference Date: 2022/9
Poster
Published
Refereed?: Yes, Invited?: No

2. Elliston Vallarino Reyes, Hana Trigui, Sara C. Matthews, Mélanie Rivard, Dominique Charron, Émilie Bédard, Michele Prévost, Sebastien P. Faucher. (2022). Temporal and spatial variation in cooling tower microbiomes and the presence of Legionella. The 10th International Conference on Legionella, Yokohama, Japan
Conference Date: 2022/9
Poster
Published
Refereed?: Yes, Invited?: No

3. Jeffrey Liang, Sebastien P. Faucher. (2022). Handling the heat - Experimental evolution of Legionella pneumophila under heat shock. The 10th International Conference on Legionella, Yokohama, Japan
Conference Date: 2022/9
Poster
Published
Refereed?: Yes, Invited?: No

4. Harel J, Lefebvre B, Bernier AM, Pacheco AL, Marchand-Senécal X, Faucher S, Prévost M, Fafard J. (2022). Infection mixte chez un cas de légionellose.AMMIQ 2022, Montréal, Canada
Conference Date: 2022/6
Abstract
Published
Refereed?: Yes, Invited?: No

5. Bédard E, Trigui H, Liang J, Lalancette C, Faucher SP, Prévost M. (2021). Can sampling site in a hot water system affect Legionella pneumophila tolerance to copper?. Water Quality and Technology Conference, Cincinnati, United States of America
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Conference Date: 2021/6
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Refereed?: Yes, Invited?: No

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Conference Date: 2021/6
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Refereed?: Yes, Invited?: No

8. **Saad M, Castiello R, Faucher SP, Tabrizian M. (2021). A combined aptamer and titration assay for SPRi-based detection of Legionella pneumophila.70th Annual Conference of the Canadian Society of Microbiologists (Online),
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Refereed?: Yes, Invited?: No

9. **Liang J, Faucher SP. (2021). An experimental evolution system to study pasteurization resistance in L. pneumophila.Microbiology Society Annual Conference Online 2021,
Conference Date: 2021/4
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Refereed?: Yes, Invited?: No

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Refereed?: Yes, Invited?: No

12. **Saad M, **Chinerman D, Tabrizian M, Faucher SP. (2019). Discovery of two aptamers that bind to Legionella pneumophila. 69th Annual Conference of the Canadian Society of Microbiologists (CSM 2019), Sherbrooke, Canada
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Refereed?: Yes, Invited?: No

13. **Paranjape K, **Bédard E, Ronholm J, Whyte LG, Prévost M, Faucher SP. (2019). Legionella pneumophila and the microbiome of cooling towers. 69th Annual Conference of the Canadian Society of Microbiologists (CSM 2019), Sherbrooke, Canada
Conference Date: 2019/6
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Refereed?: Yes, Invited?: No

14. **Torres A, **Paranjape K, **Hu M, **Bédard E, Faucher SP. (2019). A model cooling tower harboring L. pneumophila and V. vermiformis: Is there Legionella in the biofilm? - Selected for poster competition. 69th Annual Conference of the Canadian Society of Microbiologists (CSM 2019), Sherbrooke, Canada
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17. **Liang J, Faucher SP. (2019). An experimental evolution model to raise the heat shock tolerance of the pathogen Legionella pneumophila. Molecular Mechanisms in Evolution - Gordon Research Conference, Easton, United States of America
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Refereed?: Yes, Invited?: No

18. **Sadek M, Faucher SP. (2019). Analysis of the genomic region of the sRNA lpr0024 uncovers a new mobile genetic element and a new endonuclease. 4e Congrès de Bactériologie intégrative, Laval, Canada
Conference Date: 2019/3
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Refereed?: Yes, Invited?: No

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Conference Date: 2019/3
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Refereed?: Yes, Invited?: No

20. **Liang J, Faucher SP. (2019). Experimental evolution of Legionella pneumophila under heat stress - Winner of Fondation Armand Frappier Award for best poster, day 2. 4e Congrès de Bactériologie intégrative, Laval, Canada
Conference Date: 2019/3
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Refereed?: Yes, Invited?: No

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22. **Torres A, **Paranjape K, Hu M, Bédard E, Faucher SP. (2019). TALK - Assessing the microbiome of a model cooling tower harboring Legionella pneumophila - Winner of Musée Armand-Frappier Award for best oral presentation. 4e Congrès de Bactériologie intégrative, Laval, Canada
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25. **Paranjape K, **Bédard E, Fontaine Y, Ronholm J, Prévost M, Faucher SP. (2018). TALK - Legionella pneumophila and the microbial composition of cooling towers in Quebec, Canada. National Water and Wastewater Conference, Montreal, Canada
Conference Date: 2018/11
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43. **Li L, Faucher SP. (2016). An essential membrane protein, LasM, for the survival of Legionella pneumophila in water. 66th Annual Conference of the Canadian Society of Microbiologists, Toronto, Canada
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Conference Date: 2016/5
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Conference Date: 2016/5
Abstract
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Refereed?: Yes, Invited?: No

Intellectual Property

Patents

1. Aptamers binding to Legionella pneumophila. United States of America. 16/850,355. 2020/04/14.
Patent Status: Allowed
Year Issued: 2022
Inventors: Saad M, Tabrizian M, Faucher SP
This patent describe two aptamers, short DNA sequences, binding specifically and with good affinity to whole Legionella pneumophila cells. These aptamers could be used to develop strategies to detect Legionella pneumophila in situ and in real time.