

1. Academic Background and Work Experience

Education

Ph.D. in Mathematics. <i>Université de Sherbrooke (UDS)</i> . Sherbrooke (Can).	2013 - 2016.
Master in Mathematics - Biostatistics. <i>UDS</i> . Sherbrooke (Can).	2012 - 2013.
Master in Biostatistics. <i>Université de Montpellier II</i> . Montpellier (Fra).	2012 - 2013.
B.Sc. in mathematics <i>UDS</i> . Sherbrooke (Can).	2008 - 2011.

Work experience

Assistant professor, Département de mathématiques, Université de Sherbrooke	2018 - ...
Postdoctoral Fellow in Statistics. <i>The University of Melbourne</i> . Parkville (Aus).	2016 - 2018.

2. Professional activities and contributions

Funding obtained

- | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| (1) <i>Personnalisation et gestion automatique sécurisée de l'administration de vasopresseurs aux soins intensifs : modélisation pour le contrôle en boucle fermée.</i>
CRCHUS - Programme de financement de projets structurants en recherche translationnelle. (Principal Investigator) Total funding : \$75 000. | 2020 - 2021 |
| (2) <i>Covariate-adjusted measurement error models that incorporate distortion effects on the target measures.</i>
FRQNT - Relève professorale (Principal investigator). Total funding : \$60 000. | 2020 - 2022 |
| (3) <i>Knowledge dissemination on a stochastic simulation for estimating deferral criteria scenario for men who have sex with men, and the impact of pathogen reduction technology on HIV, HBV, and HCV residual risks.</i> Canadian Blood Services (Co-Investigator)
MSM Research Grant Program Knowledge Mobilization. Total funding : \$10 000. | 2020 |
| (4) <i>Automatisation de la classification par magnétométrie quantique de failles en présence d'erreurs de mesure.</i>
MITACS - Accelerate (Principal applicant with D. Roy-Guay). Total funding : \$15 000 (Can). | 2019 - 2020. |
| (5) <i>Nonparametric zero-inflated measurement error models and their applications</i>
Natural Sciences and Engineering Research Council of Canada (Principal applicant)
Discovery grant + Discovery launch supplement. Total funding : \$80 000 + \$12 500 (Can). Grant. | 2019 - 2024. |
| (6) <i>Flipping the paradigm in organ transplants : multidisciplinary strategy combined to patient oriented approach study.</i>
Social Sciences and Humanities Research Council of Canada (Co-applicant)
New Frontiers in Research Fund-Exploration. Total funding : \$250 000 (Can). Grant. | 2019 - 2021. |
| (7) <i>Statistical learning for initialization of quantum dot arrays</i>
Institut Quantique (Principal investigator with M. Pioro-Ladrière)
<i>Appel à projets IQ9-2018</i> . Total funding : \$40 000 (Can). Grant. | 2018 - 2020. |

Prizes and distinctions

- (1) Since 2018, I am an Honorary researcher at The University of Melbourne
- (2) In 2018, I received the New Investigator Presentation Award at the Statistical Society of Canada annual meeting, in recognition of the quality of the presentation and the underlying work.

Presentations as guest speaker - Invited Talks & Invited Posters in Conferences

- (1) Statistical Society of Canada Annual Meeting. Ottawa (Can), Mai 2020 (**Cancelled**).
- (2) 12th International Conference of the ERCIM WG on Computational and Methodological Statistics, London (UK), Dec. 2019.
- (3) 7th Scientific Meeting Sherbrooke-Montpellier. Sherbrooke (Can), Jun. 2019.
- (4) Statistical Society of Canada Annual Meeting. Calgary (Can), Mai 2019.
- (5) Joint Statistical Meetings, Vancouver (Can), Jul. 2018.

- (6) 5th Scientific Meeting Sherbrooke-Montpellier, Sherbrooke (Can), Jun. 2015.

Presentations as guest speaker - Seminars and Workshops

- (1) McGill's Biostatistics Seminar Series. Montreal (Can). Nov. 2019.
- (2) Conférences du Centre de recherche du centre hospitalier universitaire de l'université de Sherbrooke (CRCHUS). Sherbrooke (Can). Dec. 2017 & Sept. 2019.
These two presentations were given to healthcare researchers affiliated to CRCHUS. The first one was an introductory lecture on measurement errors and their impacts on data analyses, and the second one discussed problems and techniques related to the analysis of dietary data.
- (3) Statistics seminar at the University of Melbourne. Parkville (Austr.). Oct. 2016, Oct. 2018 & Aug. 2019.
- (4) Journées annuelles Santé : Population, Organisation, Pratiques. Longueuil (Can). Mai 2019.
- (5) Midi-Conférence du Laboratoire de sciences judiciaires et médecine légale de Montréal (LSJML). Montreal (Can). Apr. 2019.
This seminar was given in the toxicology and forensic medicine department of LSJML to practitioners. It involved an introduction to modern likelihood-based methods to assess evidence.
- (6) Séminaire de statistique de l'Université Laval. Laval (Can). Feb. 2019.
- (7) Séminaire de statistique de l'Université du Québec à Montréal, Montréal (Can). Jan. 2019.
- (8) Journées du Centre Sève. Orford (Can). Nov. 2019.
At the *Journées du Centre Sève*, a workshop in the field of plan sciences, I gave a three hour interactive course on an introduction to measurement error correction methods.

Thesis examination committees

- (1) Abed, Amin. (2021). Bayesian inference with uncertain constraint.
- (2) Taseen, Rayeyan. (2021). Le développement, validation et évaluation de l'utilité clinique d'un modèle de prédiction de mortalité à un an pour stimuler une discussion sur les objectifs de soins chez les patients hospitalisés.
- (3) Rancourt, Fanny. (2019). Sur l'estimation ponctuelle pour des modèles de mélange. Université de Sherbrooke.
- (4) Zhang, Jianfei. (2019). Large-scale Data Classification and Longitudinal Data Mining for Survival Analysis. Université de Sherbrooke.
- (5) Bégin, Étienne. (2019). Décomposition M-Vine du processus vecteur auto-régressif d'ordre 1. Université de Sherbrooke.
- (6) Morrissette, Jean-Philippe. (2018). Inférence bayésienne sous un a priori normal-gamma dans différents contextes et pour des fonctions de la moyenne et de la variance. Université de Sherbrooke.
- (7) Frappier, Mathieu. (2018). Reformulation semi-lisse appliquée au problème de complémentarité. Université de Sherbrooke.

Evaluation of articles for scientific journals & proceedings

- (1) Annals of Statistics (2)
- (2) Canadian Journal of Statistics (3)
- (3) International Society for Nonparametric Statistics Proceedings (1)
- (4) Statistics & Probability Letters (1)
- (5) Journal of Multivariate Analysis (3)
- (6) Journal of Environmental and Ecological Statistics (1)

Memberships & Affiliations

- (1) Regular researcher in the *Groupe de recherche interdisciplinaire en informatique de la santé* since Septembre 2020.
- (2) Regular researcher in the *Centre de Recherche du Centre Hospitalier Universitaire de l'Université de Sherbrooke* since December 2018.
- (3) Honorary researcher of the school of mathematics and statistics at The University of Melbourne since 2018.
- (4) Member of the Statistical Society of Canada since 2014.
- (5) Regular member, Laboratoire de statistiques.

Involvements in the academic community

- (1) President of the sub-committee in charge of assessing the organizational structure of data access and support for researchers within the *Comité de la recherche en santé numérique* (Jan. 2021 - ...).
- (2) Member of the evaluation committee of the *Programme d'octroi rapide de fonds de recherche de l'Axe SPOP du CRCHUS* (March 2021).
- (3) President of the New Investigators Committee of the Statistical Society of Canada (Aug. 2020 - ...).
- (4) Director of the Statistics Consulting center of the Département de mathématiques of the Université de Sherbrooke (July 2020 - ...).
- (5) Scientific officer of the Biostatistics Service Center of the *Unité de recherche clinique et d'épidémiologie* of the CRCHUS (May 2020 - ...).
- (6) Member of the New Investigators Committee of the Statistical Society of Canada in charge of official communications (May 2019 - ...).
- (7) Member of the scientific committee of the 88th Acfas congress and specifically involved in the Health sciences - Epidemiology and Biostatistics section.
- (8) Library liaison officer for the department of mathematics at the Université de Sherbrooke (Aug. 2018 - ...).
- (9) Member of the Selection committee of the CRM-ISM postdoctoral fellowships (Jan. 2020)
- (10) Standing committee member of the Bilingualism Committee of the Statistical Society of Canada (Jan. 2019 - ...).
- (11) Statistic seminars organiser at the Université de Sherbrooke (Jan. 2019 - ...).
- (12) Statistic seminars organiser at The University of Melbourne (Dec. 2016 - Jan. 2017).
- (13) I have served as a judge for the student research presentations at the Statistical Society of Canada Annual Meetings in Montreal (2018) and in Calgary (2019).
- (14) I have served as an abstract reviewer and as a judge for the student research presentations and the poster presentations for the Canadian Statistics Student Conference (2020).
- (15) Through the course of my Ph.D., I have been involved in the program evaluation committee of the department of mathematics at *Université de Sherbrooke*.

Involvements in the general community

- (1) In 2019, I served on two occasions as an activity leader in events involving mathematical game sessions designed for children ranging between 8 and 15 years old.
- (2) During my Ph.D., I took part in several high school and CEGEP activities to promote mathematics and statistics. This includes events involving Alexander Galt Regional High School, *Lycée Claudel*, *Séminaire de Sherbrooke* and *calculomaniques* contest winners.

Knowledge Translation and Dissemination Activities

- (1) Since 2011, I have developed several excel and R programs that are currently used by researchers and practitioners in the *Laboratoire de sciences judiciaires et médecine légale* (LSJML) in Montreal. Those tools were based on a collaborative cross-disciplinary research project led by toxicologist B. Desharnais and myself. In collaboration with LSJML, I have contributed to 4 refereed publications and 3 reports. In addition, the methodology that we developed for our project *Selection and Validation of a Calibration Model* received much attention from the forensic community. First, during the external audit for renewal of the ISO 17025 and CAN-P- 1578 accreditations by the Standards Council of Canada, development and use of this tool received a special commendation, and the audit team mentioned in their final report that "method validation is well documented (...) and distinguishes itself by its exceptional accuracy, logic and precision". Second, this project is now cited as an update to standard practices in method validation for forensic toxicology (see e.g. Wille et al, *Curr. Pharm.*, 2017). Finally, the video tutorial posted on YouTube describing how to install and use the R scripts that we produced was viewed 1400 times (as of Sept. 2019) (video was published on July 20th, 2016)(<https://www.youtube.com/watch?v=azpD2GG0qNA>).
- (2) Consultation services : Since 2010, there has been an increase in the number of cases involving overconsumption of opioids in North America, a situation that has been suspected to decrease the life expectancy in some regions. To this day, very few data was available to characterize this situation in Quebec. A cross-disciplinary collaboration between *Université de Sherbrooke*, *Université du Québec à Trois-Rivières* and LSJML have allowed to perform

a retrospective analysis of the presence of opioid in death cases registered between 2013 and 2018. Through this collaboration, I have been responsible for designing the statistical analyses and for supervising three undergraduate students.

- (3) On March 11 2020, I gave a live broadcasted interview (*Radio-Canada, L'heure de pointe Toronto/Windsor*, 15h15) on the role of mathematics in our daily lives (<https://ici.radio-canada.ca/premiere/emissions/l-heure-de-pointe-toronto/segments/entrevue/158576/mathematiques-felix-camirand-lemyre-semaine-des-maths>).
- (4) On September 10 2018, I gave a live broadcasted interview on *Radio Ville-Marie* to talk about polling and the predictability of election results.

Mainstream media articles featuring my work

- (1) <https://www.usherbrooke.ca/sciences/accueil/nouvelles/nouvelles-details/article/40436/>
- (2) <https://www.usherbrooke.ca/actualites/nouvelles/nouvelles-details/article/42083/>

Supervision - Ph.D. students

- (1) Jiajun Tang, The University of Melbourne (**co-supervised with A. Delaigle**) 2017 - ...
Techniques for Measurement Error problems.
- (2) Ruoxu Tan, The University of Melbourne (**co-supervised with A. Delaigle**) 2017 - ...
Semiparametric and nonparametric regression analyses with missing data .
- (3) Jiadong Mao, The University of Melbourne (**co-supervised with A. Delaigle**) 2016 - 2020
Nonparametric methods for streaming data.

Supervision - M.Sc. students

- (1) Marie-Pier Domingue, Université de Sherbrooke 2021 - ...
Topics in risk modelling of related to the safety of blood products.
- (2) Charlie Cloutier Langevin, Université de Sherbrooke (**co-supervised with K. Herrmann**) 2021 - ...
Multivariate CDF estimation from noisy data.
- (3) Julien Corriveau-Trudel, Université de Sherbrooke (**co-supervised with M. Vallières**) 2021 - ...
Distributed inference under heterogeneity.
- (4) Kossi Ekouagou, Université de Sherbrooke 2021 - ...
Statistical approaches for real-time detection of adverse events in ICU.
- (5) Eliana Houle-Aubé, Université de Sherbrooke (**co-supervised with A. Lewin**) 2019 - 2021
Mathematical modeling of the transmission risk of HIV, HBV and HCV in transfusion.
- (6) Olivier Germain, Université de Sherbrooke. 2018 - ...
Measurement error reconstruction methods for initialising quantum dot arrays
- (7) Jason Tran, The University of Melbourne (**co-supervised with A. Delaigle**) 2012 - 2019.
An explained sum of squares approach to nonparametric regression with measurement error. ¹

Supervision - B.Sc. internships

- (1) Simon Lévesque, Université de Sherbrooke. (**co-supervised with J-F Éthier**) E2021
Practical assessment of systematic rounding errors on Type I and Type II errors of hypothesis tests.
- (2) Benjamin Université de Sherbrooke. (**co-supervised with J-F Éthier and M. Vallière**) E2021
Statistical distributed inference.
- (3) Émilie Bertrand, Université de Sherbrooke. (**co-supervised with R Leconte**) H2021
Statistical models for TOF-PET detector CTRs.
- (4) Benjamin Piché, Université de Sherbrooke. F2020
Statistical topics in nutritional epidemiology.
- (5) Émilie Bertrand, Université de Sherbrooke. (**co-supervised with R Leconte**) S2020
Statistical approaches for the bias correction in TOF-PET detectors.

1. My role in this co-supervision started in January 2017. In 2013, his former supervisor Pr Hall fell ill, which severely limited the time and support he could give to Tran. In 2015, Tran decided to accept a job of analyst at Suncorp and complete his studies on a part-time basis. When Hall passed away in January 2016, Aurore Delaigle stepped-in to act as his supervisor.

- (6) Julien Corriveau-Trudel, Université de Sherbrooke. **(co-supervised with J-F Éthier and M. Vallière)** S2020
Statistical distributed inference.
- (7) Charlie Cloutier-Langevin, Université de Sherbrooke. S2020
Estimating the relation between habitual intakes and health outcomes in the presence of confounders.
- (8) Kevin Chalifoux, LSJML **(co-supervised with B. Desharnais)** S2020
Optimal design for a calibration model.
- (9) Pierre-Daniel Arsenaault, LSJML **(co-supervised with B. Desharnais)** W2020
Automated procedures for uncertainty evaluation via the binary output.
- (10) Charlie Cloutier-Langevin, Université de Sherbrooke. **(co-supervised with N. Presse and A. Cohen)** F2019
Statistical models for the assessment of the impacts of nutritional factors on aging.
- (11) Julien Corriveau-Trudel, Université de Sherbrooke. **(co-supervised with N. Presse and A. Cohen)** F2019
Statistical models for the assessment of the impacts of nutritional factors on aging.
- (12) Pierre-Daniel Arsenaault, LSJML **(co-supervised with B. Desharnais)** S2019
Uncertainties quantification for concentration measurements by protein precipitation.
- (13) Julien Corriveau-Trudel, Université de Sherbrooke. S2019
Measurement error models with varying target measure and their applications in nutrition.

3. Publications and works

Publications where the order of authors is alphabetical are identified with an asterisk (*). Publications where the first two authors are co-first authors are identified with a dag (†). Student authors are marked with a double dag (‡)

Published/Accepted for publication refereed articles

- [1] Aubé E[‡], Lewin A, O'Brien S F, Grégoire Y, Pillonel J., Steele W R, Custer B, Davison K L, Germain M, Seed C R, Camirand Lemyre F. (2021). HIV residual risk in Canada for apheresis source plasma donation without deferral for men who have sex with men. *Vox Sanguinis*, vox.13176. **(Accepted)**
- [2] Hardy I, Lloyd A, Morisset A-S, Camirand Lemyre F, Baillargeon J-P, Fraser W D (2021). Healthy for My Baby Research Protocol- a Randomized Controlled Trial Assessing a Preconception Intervention to Improve the Lifestyle of Overweight Women and Their Partners. *Frontiers in Public Health*, 9, 670304. **(Accepted)**
- [3] Loignon-Houle F, Gundacker S, Toussaint M, Camirand Lemyre F, Auffray E, Fontaine R, Charlebois S A, Lecoq P, Lecomte R. (2021). DOI estimation through signal arrival time distribution : A theoretical description including proof of concept measurements. *Physics in Medicine & Biology*, **66**(9), 095015. **(Link)**
- [4] Vincenot M, Cloulombe-Leveque A, Sean M, Camirand Lemyre F, Gendron L, Marchand S and Leonard G. (2021). New strategic approaches to personalized chronic pain treatment : study protocol. *Frontiers in Pain Research*. **(Accepted)**.
- [5] Lebrun A, Cloutier-Langevin C[‡], Plante A-S, Savard C, Weisnagel JS, Robitaille J, Camirand Lemyre F & Morisset A-S. (2020). Trimester-specific and total gestational weight gain in two consecutive pregnancies. *Journal of Obstetrics and Gynaecology Canada*. **(Accepted)**.
- [6] *Camirand Lemyre F, Decrouez G. (2020). Nonparametric Recursive Estimation Of The Copula. *Statistics and Probability Letters*. **168**. **(In press)**.
- [7] *Camirand Lemyre F, Carroll R J, Delaigle A. (2020). Semiparametric Estimation of the Distribution of Episodically Consumed Foods Measured with Error. *Journal of the American Statistical Association*. **(In press)**.
- [8] †Camirand Lemyre F, Desharnais B, Laquerre B, Mireault P, Skinner C. D. (2020). Qualitative threshold method validation and uncertainty evaluation : a theoretical framework and application to a 40 analytes LC-MS/MS method. *Drug Testing and Analysis*. **12**(9) :1287–1297. **(Link)**.
- [9] Lapointe-Major M, Germain O[‡], Camirand Lemyre J, Lachance-Quirion D, Rochette S, Camirand Lemyre F, and Pioro-Ladrière M. (2020). Algorithm for automated tuning of a quantum dot into the single-electron regime. *Physical Review B*. **102**(8). **(Link)**.

- [10] †Arsenault C, Camirand Lemyre F, Martin P, Lévesque S. (2019). Bayesian Evaluation Of Solana HSV 1+2/VZV Assay Compared To Viral Culture And Commercial PCR Assay For Cutaneous Or Mucocutaneous Specimens. *Journal of Clinical Microbiology - Virology section*. **58**(3). ([Link](#)).
- [11] *Bouezmarni T, Camirand Lemyre F, El Ghouch A. (2019). Estimation Of A Conditional Copula When A Variable Is Subject To Random Right Censoring. *In Electronic Journal of Statistics*. **13**(2) : 5044-5087. ([Link](#)).
- [12] *Bouezmarni T, Camirand Lemyre F, Quessy J-F. (2019). Inference on local causality and tests of non-causality in time series. *Electronic Journal of Statistics*. **13**(2) : 4121-4156. ([Link](#)).
- [13] *Bouezmarni T, Camirand Lemyre F, Quessy J-F. (2019). On The Large-Sample Behavior Of Two Estimators Of The Conditional Copula Under Serially Dependent Data. *Metrika*. **82**(7) : 823-841. ([Link](#)).
- [14] *Camirand Lemyre F, Quessy J-F. (2017). Multiplier Bootstrap Methods For Conditional Distributions. *Statistics and Computing*. **27**(3) : 805-821. ([Link](#))
- [15] *Belalia M, Bouezmarni T, Camirand Lemyre F, Taamouti A. (2017). Testing Independence Based On Bernstein Empirical Copula. *Journal of Nonparametric Statistics*. **29**(2) : 346-380. ([Link](#))
- [16] Desharnais B, Camirand Lemyre F, Mireault P, Skinner D C. (2017). Procedure For The Selection And Validation Of A Calibration Model I - Description And Application. *Journal of Analytical Toxicology*. **41**(4) : 261-268. (**Selected Editor's choice**). ([Link](#))
- [17] Desharnais B, Camirand Lemyre F, Mireault P, Skinner D C. (2017). Procedure For The Selection And Validation Of A Calibration Model II - Theoretical Basis. *Journal of Analytical Toxicology*. **41**(4) : 269-276. (**Selected Editor's choice**) ([Link](#))
- [18] Desharnais B, Camirand Lemyre F, Mireault P, Skinner D C. (2015). Determination Of Confidence Intervals In Non-Normal Data : Application Of The Bootstrap To Cocaine Concentration In Femoral Blood. *Journal of Analytical Toxicology*. **39**(2) : 113-117. ([Link](#))

Research reports

- [19] Camirand Lemyre F, Desharnais B. (2019). Comparaison inter-méthode BHB et GHB par GC-MS vs LCMS/MS (PPT3). **13**. *Laboratoire de sciences judiciaires et médecine légale*.
- [20] Desharnais B, Lamarche M, Côté C, Taillon M-P, Lavallée C, Camirand Lemyre F, Mireault P. (2015). IT-10-TOX-01 : Ligne directrice sur la validation des méthodes en toxicologie. **87**. *Laboratoire de sciences judiciaires et de médecine légale de Montréal*.
- [21] Desharnais B, Camirand Lemyre F. (2012). Post-mortem redistribution of drugs : a literature review and statistical study of data for citalopram, venlafaxine, meperidine, trazodone and cocaine. *Laboratoire de sciences judiciaires et médecine légale du Québec*.