REBECA CARDIM FALCAO

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EDUCATION

University of British Columbia, Vancouver   *December,2021*
Ph.D. in Applied Mathematics
Thesis: Multi-states inference for analysing noisy single-particle trajectories
Recipient of Graduate Research Award at the Mathematics Department of UBC in 2019

Universidade Federal de Pernambuco, Recife
M.Sc. in Physics   *March,2014*

EXPERIENCE

BC CDC   July 2021 - Present
Postdoctoral Fellow   *Vancouver, BC*

· Develop a model of salmonella transmission dynamics through the poultry sector
· Quantitative microbiology risk assessment of salmonella in chicken products.
· Classification algorithms as source-attribution methods to link human salmonellosis to potential sources using whole-genome sequences.
· Developing short-term predictive models (glm and neural nets) of disease outcomes using multiple datasets.

MNP-Unity-UBC   September 2020 - December 2020
Researcher   *Vancouver, BC*

· Developed a model to provide personalized risk assessment of SaRS-CoV-2 exposure to business.

BC CDC   March 2020 - August 2020
Mathematical Modeller Student   *Vancouver, BC*

· Developed a branching stochastic algorithm to estimate the effects of contact tracing and physical distancing in the epidemics curves of SaRS-CoV-2.
· Developed an age-structured SEIR compartment model to predict SaRS-CoV-2 cases number, and hospitalizations.
· Support other projects in the team.

Visier   July 2019 - November 2019
Data Scientist Intern   *Vancouver, BC*

· Design an algorithm to clean and standardize Visier's data.

SELECTED PUBLICATIONS

"Diffusion analysis of single particle trajectories in a Bayesian nonparametrics framework", *with Daniel Coombs*, *Physical Biology,v.17,2020*

"Quantifying the impact of COVID-19 control measures using a Bayesian model of physical distancing", *with Sean C Anderson et al.,PLOS Computational Biology, 2020*

"Mathematical modeling of COVID-19 in British Columbia: An age-structured model with time-dependent contact rates", *with Sarafa A.Iyaniwura et al.*, *Epidemics, v. 39, 2022*

"Importance of COVID-19 vaccine efficacy in older age groups ", *with Manish Sadarangani et al.*, *Vaccine, v. 39, number 15, 2021*