

# Cristian Groza

## DETAILS

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*Phone*                 438-921-1029  
*Github*                <https://github.com/cgroza> (software projects)

## EDUCATION

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**PhD. Quantitative Life Sciences** 2019-  
*McGill University*

**BSc. Joint Computer Science and Biology** 2016-2019  
*McGill University*

**DEC. Health Science** 2014-2016  
*Dawson College*

## RESEARCH EXPERIENCE

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**Research Assistant** May 2017-  
*Contract at MUGQIC, Dr. Guillaume Bourque's Lab*

- Quantified the effect of genetic variation on the alignment and peak calling of histone ChIP-seq data.
- Improved personalized genomes for Blueprint Consortium samples by integrating detected structural variants into sequence graph genomes.
- Applied personalized genomes in research within the McGill Epigenomics Mapping Centre (EMC).
- Programmed a bioinformatic pipeline to automate analysis of a large number of samples.

**Rotating Student** Fall 2019  
*PhD rotation in Dr Yue Li's lab*  
*Department of Computer Science, McGill University*

- Applied topic learning models to single cell transcriptomic data.

## PUBLICATIONS

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1. **Groza, C.**, Kwan, T., Soranzo, N., Pastinen, T., Bourque, G. Personalized and graph genomes reveal missing signal in epigenomic data. *Genome Biol* 21, 124 (2020). <https://doi.org/10.1186/s13059-020-02038-8>

## POSTERS & TALKS

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- Personalized and graph genomes reveal missing signal  
in epigenomic datasets 07 Nov 2019  
*Lightning talk, poster at Genome Informatics, CSHL, NY*
- Personalized and graph genomes reveal missing signal  
in epigenomic datasets 10 Oct 2019  
*Talk at ATCG, McGill University*
- Personalized genomes for correcting reference bias in epigenetics 28 Mar 2019  
*Talk at Montreal Genomics, Université de Montréal*
- Impact of personalized genomes on histone ChIP-seq peak calls 30 Sep 2018  
*Presented during the 5th Canadian Conference on Epigenetics*

## AWARDS AND OFFERS

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- Graduate Excellence Award 2019  
*Quantitative Life Sciences, McGill*
- Canada Graduate Scholarship-Master's 2019  
*Alexander Graham Bell, NSERC, 17500\$*
- PhD. Computer Science Winter 2019  
*University of Toronto. Declined.*
- John V Galley Scholarship 2018  
*McGill University*
- Faculty of Science Scholarship 2017  
*McGill University*
- Dean's Honor List 2017, 2018  
*McGill University*
- First Class Honours June 2016  
*Dawson College*
- 3e Prix de Chimie Jan 2014  
*Concurs Scientifiques Montmorency*
- Golden Key Member Fall 2017  
*McGill. Offered to students with a top 10% GPA.*

## WORK EXPERIENCE

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- Pharmacy Aid Aug 2015 - Jan 2017  
*Feldman and Messias Pharmacy*

Started as a volunteer and was hired in January 2016. Prepared valproic acid doses for epilepsy patients, checked in drug deliveries, managed inventory, prepared orders.

## **VOLUNTEERING**

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### **Computing assistant**

Oct 2018 - Nov 2018

*Pharmhackaton 2018, McGill*

Helped participants with command line and programming issues in a bio/chemoinformatics themed hackaton. Took place on November 17, 2018.

## **SKILLS**

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*Programming* PYTHON, R, JAVA, C/++, SCALA, HASKELL, L<sup>A</sup>T<sub>E</sub>X

*Statistics* Data manipulation (*dplyr*), presentation (*ggplot2*) and statistical inference.

*Bioinformatics* Run conventional pipelines as well as write custom pipelines. Process, visualize, analyze and interpret DNA sequencing data.