

Gregory Moyerbrailean

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Education

- 2012 – 2016 (exp.) **PhD in Molecular Biology and Genetics (Computational Biology)**, Wayne State University, Detroit MI
Advisors: Roger Pique-Regi and Francesca Luca
- 2006 – 2010 **BS, Microbiology (Cell and Molecular Biology)**, Michigan State University, East Lansing, MI

Research Experiences

- Aug 2012 – present **Center for Molecular Medicine and Genomics, Wayne State University**
◦ Computational analysis of non-coding genetic variation, differential gene expression, and phenotypic variation using high-throughput sequencing data
- Nov 2011 – Aug 2012 **Department of Physiology, Wayne State University**
◦ Microbial community analysis from 16S deep-sequencing
- Jul 2010 – Sep 2011 **Department of Microbiology and Molecular Genetics, Michigan State University**
◦ Molecular analysis of the beneficial effects of probiotics on bone health
◦ Software development to assist targeted mutagenesis via high-efficiency recombineering
- Nov 2008 – Jul 2010 **Department of Plant Biology, Michigan State University**
◦ Data analysis of student performance for a broad NSF-funded project to reform introductory biology
◦ Collection, organization, and storage of sensitive data relating to the NSF-funded Faculty Institutes for Reforming Scientific Teaching (FIRST) IV project
- Sep 2007 – Aug 2008 **Department of Microbiology and Molecular Genetics, Michigan State University**
◦ Molecular characterization of a putative thymidine-7-hydroxylase found in *Trypanosoma brucei*

Teaching Experiences

- Winter 2010 **Teaching Assistant**, Computer Concepts and Competencies (CSE101) at Michigan State University
- Fall 2009 **Teaching Assistant**, Biology of Plants (PLB203) at Michigan State University
Teaching Assistant, Computer Concepts and Competencies (CSE101) at Michigan State University

Professional Experience

- Jul 2008 – Aug 2009 **Laboratory Technician**, MSU Diagnostic Center for Population and Animal Health, East Lansing, MI. Tasks included tissue handling and preparations, cleanup and disposal of hazardous materials, working with a CERNER client database, and following Standard Operating Procedures
- 2007 **Intern**, BrainCells, Inc, La Jolla, CA. Regular tasks included dishwashing, updating inventory, making solutions, and weighing out compounds. Extra tasks included coating cell culture plates, cutting tissue sections with a microtome, and antibody staining of tissue samples.

Publications

- In prep. **Moyerbrailean GA**, CT Harvey, C Kalita, X Wen, F Luca, and R Pique-Regi. (2014). [Which genetic variants in DNase I sensitivity regions are functional?](#) Preprint bioRxiv. doi: 10.1101/007559.

- In review Harvey CT, **GA Moyerbrailean**, O Davis, X Wen, F Luca, and R Pique-Regi. (2014). [QuASAR: Quantitative Allele Specific Analysis of Reads](#). Submitted to Bioinformatics. doi: 10.1101/007559
- 2014 Fujimoto M, **GA Moyerbrailean**, S Noman, JP Gizicki, ML Ram, J Henqinet, PA Green, JL Ram. (2014). [Application of Ion Torrent sequencing to the assessment of the effect of alkali ballast water treatment on microbial community diversity](#). *PLoS ONE*, 9(9):e107534.
- 2010 Bray Speth E, JL Momsen, **GA Moyerbrailean**, D Ebert-May, TM Long, SA Wyse and D Linton. (2010). [1, 2, 3, 4: Infusing quantitative literacy into introductory biology](#). *CBE-LSE*, 9(3), 323-32.

Presentations

- 2014 **Moyerbrailean GA***, CT Harvey, CA Kalita, X Wen, Luca F and R Pique-Regi. Empirical and computational survey of non-coding variants that affect transcription factor binding. Poster presentation at ISMB RegGenSIG, Boston, MA.
- 2014 Harvey CT*, **GA Moyerbrailean**, O Davis, X Wen, F Luca and R Pique-Regi. Joint genotyping & inference for allele specific expression of RNA-Seq data. Poster presentation at ISMB RegGenSIG, Boston, MA.
- 2014 Luca F, **GA Moyerbrailean***, CT Harvey, CA Kalita, X Wen and R Pique-Regi. Molecular and Evolutionary Features of Regulatory Variants. Poster presentation at SMBE, San Juan, Puerto Rico.
- 2014 Luca F*, CT Harvey, O Davis, **GA Moyerbrailean**, D Watzka, X Wen and R Pique-Regi. Analysis of genetic and environmental determinants of gene expression. Poster presentation at BOG, Cold Spring Harbor, NY.
- 2013 Pique-Regi R, **GA Moyerbrailean***, CT Harvey, X Wen and F Luca. Analysis of non-coding genetic variants impact on gene regulation and complex traits. Poster presentation at RECOMB/ISCB, Toronto, ON, Canada.
- 2013 Luca F, **GA Moyerbrailean**, CT Harvey and Pique-Regi R*. Analysis of non-coding genetic variants impact on gene regulation and complex traits. Oral presentation at RECOMB/ISCB, Toronto, ON, Canada.
- 2013 Luca F*, **GA Moyerbrailean** and Pique-Regi R. Predicting the impact of non-coding genetic variants on complex traits. Poster presentation at ASHG, Boston, ME.
- 2013 **Moyerbrailean GA***, F Luca and R Pique-Regi. Analysis of genetic variants and their effects on complex traits. Poster presentation at BOG, Cold Spring Harbor, NY.

Computational Skills

- Programming** Python, R, Java, C++, HTML, CSS.
Familiar with Perl, Ruby, C/C#, PHP, Javascript (incl. jQuery)
- OS** Mac OSX, Linux, Microsoft Windows
- Type Setting** LaTeX, Microsoft Office, Google Docs
- IDE** Vim, Emacs, Eclipse, Microsoft Visual Studio

References are available upon request