

Gregory Moyerbrailean

373 Gravilla St.

La Jolla, CA 92037

(517) 614-5498

gmoyerbr@wayne.edu

<http://gmoyerbrailean.github.io>

Education

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

Research Experience

- Aug 2012 **Center for Molecular Medicine and Genomics, Wayne State University**
– present ° Computational analysis of non-coding genetic variation, differential gene expression, allele-specific gene expression, and phenotypic variation using high-throughput sequencing data
- Nov 2011 **Department of Physiology, Wayne State University**
– Aug 2012 ° Microbial community analysis from 16S deep-sequencing
- Jul 2010 **Department of Microbiology and Molecular Genetics, Michigan State University**
– Sep 2011 ° Molecular analysis of the beneficial effects of probiotics on bone health
 ° Software development to assist targeted mutagenesis via high-efficiency recombineering
- Nov 2008 **Department of Plant Biology, Michigan State University**
– Jul 2010 ° 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 **Department of Microbiology and Molecular Genetics, Michigan State University**
– Aug 2008 ° Molecular characterization of a putative thymidine-7-hydroxylase found in *Trypanosoma brucei*

Teaching Experience

- 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 **Laboratory Technician**, MSU Diagnostic Center for Population and Animal Health, East Lansing, MI.
– Aug 2009 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

- 2016 Kato I, AA Vasquez, **GA Moyerbrailean**, S Land, J Sun, HS Lin, JL Ram. (2016). [Oral microbiome and history of smoking and colorectal cancer](#). *Journal of Epidemiological Research*, 2(2), 92-101.
- 2016 **Moyerbrailean GA**, CT Harvey, C Kalita, X Wen, F Luca, and R Pique-Regi. (2016). [Which genetic variants in DNase I sensitivity regions are functional?](#) *PLoS Genetics*, 12(2), e1005875.

- 2015 **Moyerbrailean GA**, GO Davis, CT Harvey, D Watza, X Wen, R Pique-Regi, and F Luca. (2015). [A high-throughput RNA-seq approach to profile transcriptional responses](#). Scientific Reports, 5:14976, DOI: 10.1038/srep14976
- 2014 Harvey CT, **GA Moyerbrailean**, GO Davis, X Wen, F Luca, and R Pique-Regi. (2014). [QuASAR: Quantitative Allele Specific Analysis of Reads](#). *Bioinformatics*, 31(8), 1235-1242.
- 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.

Select Presentations

- Nov 2015 **Moyerbrailean GA***, AL Richards, D Kurtz, CA Kalita, GO Davis, CT Harvey, A Alazizi, D Watza, Y Sorokin, N Hauff, X Zhou, X Wen, R Pique-Regi, F Luca. High-throughput allele-specific expression across 250 environmental conditions. Oral presentation at RECOMB/ISCB, Philadelphia, PA.
- Nov 2014 **Moyerbrailean GA***, CT Harvey, CA Kalita, X Wen, Luca F and R Pique-Regi. Which genetic variants in DNase I hypersensitive regions are functional? Oral presentation at RECOMB/ISCB, San Diego, CA.
- Jul 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.
- Jun 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.
- Nov 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.
- May 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, Javascript (incl. jQuery)
Familiar with Perl, Ruby, SQL (MySQL and PostgreSQL), C/C#, PHP
- OS** Mac OSX, Linux, Microsoft Windows
- Type Setting** LaTeX, Microsoft Office, Google Docs
- IDE** Vim, emacs, Eclipse, Microsoft Visual Studio