

# Gregory Moyerbrailean

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<http://gmoyerbrailean.github.io>

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## Education

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

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## Research Experiences

- Aug 2012 – **Center for Molecular Medicine and Genomics, Wayne State University**  
present  
◦ Computational analysis of non-coding genetic variation, differential 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*

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## 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

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## Professional Experience

- Jul 2008 – **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
- Aug 2009
- 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.

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## Publications

- In prep. **Moyerbrailean GA**, CT Harvey, C Kalita, X Wen, F Luca, and R Pique-Regi. (2014). Are all genetic variants in DNase I sensitivity regions functional? Preprint bioRxiv:  
<http://dx.doi.org/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. Preprint bioRxiv: <http://dx.doi.org/10.1101/007559>. Submitted to Bioinformatics.
- In review 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. Submitted to PLoS ONE.
- 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.

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## 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 Watz, 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.

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## Computational Skills

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

*References are available upon request*