Aimer A. Gutierrez Diaz

CURRICULUM VITAE

# Present address

Department of Biochemistry and Molecular Biology

603 Wilson Rd, Rm. 202, Michigan State University,

East Lansing, MI 48824-6473, USA

Contact: (517) 402-8196 | [gutie190@msu.edu](mailto:gutie190@msu.edu)

# Academic appointments

## Visiting Scholar in Grotewold Lab

* Date: September 2018 - Present
* Michigan State University, East Lansing, Michigan, USA
* Research projects involved:
* Elucidating Maize Gene Regulatory Networks to Accelerate Translational Genomics.

**Contribution:** Computational analysis of maize transcription start sites obtained from CAP analysis of gene expression (CAGE) studies

Genetic analysis of *tt19* and *Bz2* mutants anthocyanin deficient phenotype

**Contribution:** Genome wide analysis of gene and small RNA expression of *Arabidopsis* mutants under anthocyanin induction conditions

# Education

## Master of Science in Bioinformatics

* Universidad Nacional de Colombia. Bogota, Colombia
* Dates: February 2016 - September 2018
* GPA: 4.9/5.0
* Thesis title: Automatized detection of ncRNA-small RNA-derived fragments differentially expressed in Dengue virus infection.

## Bachelor of Science in Biology

* Universidad Nacional de Colombia. Bogota, Colombia
* Graduated with honors
* Dates: August 2010 - September 2015
* GPA: 4.5/5.0
* Thesis title: Insecticide associated microevolutionary changes in wing geometry and CO1 gene sequence in natural populations of *Aedes aegypti*

# Research experience

## Bioinformatics in “RNomica Teorica y Computacional”

* Universidad Nacional de Colombia.
* Bogota, Colombia
* Date: February 2017 – August 2018
* Research project: "Genomic and Epigenomic study on a previously identified network's nodes for Alzheimer disease in Colombians patients" (in Spanish)*,* Colciencias 110171250010:

# Publications

* Álvarez-Díaz, D. A., **Gutiérrez-Díaz, A. A**., Orozco-García, E., Puerta-González, A., Bermúdez-Santana, C. I., & Gallego-Gómez, J. C. (2019). Dengue virus potentially promotes migratory responses on endothelial cells by enhancing pro-migratory soluble factors and miRNAs. Virus Res., 259, 68-76.

**Complementary Education**

## Principles of genomic and metagenomic data analysis

* Main trainers: Michael Gribskov (PU) and Esperanza Torres (UNAL)
* Purdue University and Universidad Nacional de Colombia
* Dates: June – July 2016
* Course intensity: 50 hours

## 1st Programming for Evolutionary Biology Course Goes to the Americas

* Main Trainers: Katja Nowick (Leipzig University) and Clara Bermudez (UNAL)
* University of Leipzig and Universidad Nacional de Colombia
* Dates: November - December 2014
* Course intensity: 128 hours

**Congress and meetings**

## Evolution and Core Processes in Gene Expression

* Michigan State University, East Lansing, MI
* May 9–12, 2019
* Poster presentation: “*Cis* and *trans* regulatory variation of P1 gene targets in two maize (Zea mays) inbred lines”

## 61st Annual Maize Genetics Conference

* Union Station of St. Louis, Missouri, USA.
* March –14-17, 2019
* Poster presentation: “Distinct genotype and tissue-specific TSS usage in B73 and Mo17 maize inbred lines”

## VIII International Conference on Bioinformatics SoIBio 2017

* Santiago de Cali, Colombia
* September 13-15, 2017
* Oral presentation: “A pipeline to increase the reproducibility of differential expression analysis in miRNA and small fragments derived from ncRNAs”

## Evolution 2015

* Guarujá, Brazil
* June 26-29, 2015
* Oral presentation: “Insecticide associated microevolutionary changes in wing geometry and CO1 gene sequence in natural populations of Aedes aegypti”

# Honors and awards

* 2017 Scholarship “Exception of academic rights payment for graduate studies”
* 2016-2018 Postgraduate’s Scholarships due to Honors degree
* 2014 Course Fellowship “1st Programming for Evolutionary Biology Course Goes to the Americas”
* 2011-2015 Scholarships “Exception of academic rights payment for bachelor studies”

# Skills & Abilities

* Sufficiency in computer programming language: R, Perl, Bash and Latex
* Software development: NBlockTester, Computational tool to detect expression blocks of ncRNA-derived functional small fragments using small RNAseq data
* Team work and team leader

# Languages

* Spanish (native speaker)
* English (TOEFL ITP score 100/120)
* Portuguese (Medium)