

**Diana Aguilar Gómez**

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**EDUCATION**

**University of California Berkeley**

Fall 2017 - present

Center for Computational Biology (CCB)

*PhD Candidate, Computational Biology Program*

**Universidad Nacional Autónoma de México (UNAM)**

Fall 2013 - Spring 2017

Center for Genomic Sciences (CCG) and Institute of Biotechnology

*Licenciado en Ciencias Genómicas* (Bachelor in Genomic Science)

GPA: 9.68/10 *Mención Honorífica* (Graduated with Honors)

**ACADEMIC AND PROFESSIONAL AWARDS**

- |  |                           |             |
|--|---------------------------|-------------|
| • UC MEXUS-CONACYT   | Berkeley, U.S. 2018-2022  | 150,000 USD |
| • Fulbright-Garcia Robles Scholarship for Graduate Studies | Berkeley, U.S. 2017- 2020 | 75,000 USD  |
| • “Movilidad Estudiantil” UNAM Exchange Program            | Munich, Germany. 2017     | 90,000 MXN  |
| • MITACS Globalink Research Award                          | Vancouver, Canada. 2016   | 7,000 CDN   |
| • SURP Scholarship “Proyecto 100,000”                      | Ithaca, U.S. 2014         | 60,000 MXN  |
| • PRONABES - UNAM Scholarship                              | Mexico. 2013 - 2017       | 48,000 MXN  |
| • Community Builder Award from LAGSES                      | Berkeley, U.S. 2018       |             |
| • 26th Mexican Mathematics Olympiad (OMM)                  | Guanajuato, Mex, 2012     |             |
| - 3rd place at the National Contest                        |                           |             |
| - 2nd place at the Regional Contest                        |                           |             |

**EXPERIENCE**

*PhD Candidate at UC Berkeley, Center for Computational Biology, Berkeley, U.S.*

Supervisor: Dr. Rasmus Nielsen, May 2018 - present

- Map genetic variants underlying color polymorphism in *Oophaga pumilio* (poison frog)
- Color adaptation in populations of *Phrynocephalus versicolor* (toad-headed lizard)

*Research assistant at Helmholtz Zentrum München, Institute of Functional Epigenetic, Munich, Germany*

Supervisor: Dr. Robert Schneider, Sep 2016- Sep 2017

- Single-cell analysis of transcriptional memory in *S. cerevisiae*

*Visiting Research Student at University of British Columbia, Medical Genetics Department, Vancouver, Canada*

Supervisor: Dr. Carolyn Brown, Summer 2016

- Finding boundary genes for escape regions in the human inactive X chromosome

*Research Student at UNAM, CCG, Dynamic Genomics Department, Cuernavaca, Mexico*

Supervisor: Dr. Diego Cortez, Sep 2015 - Jun 2016

- Male mutation bias in monotremes
- Finding sex chromosomes in *Basiliscus vittatus* (basilisk lizard)

*Research Student at UNAM, CCG, Genomic Engineering Department, Cuernavaca, Mexico*

Supervisor: Dr. David Romero, Jan 2015 - Jun 2016

- Double-strand break repair in *Rhizobium etli* (nitrogen-fixing bacteria)

*Visiting Research Student at Institut de Génétique et de Biologie Moléculaire et Cellulaire, Functional Genomics and Cancer Department, Strasbourg, France*

Supervisor: Dr. Robert Schneider, Summer 2015

- ChIP-seq analysis of histone modifications and their link to metabolism

*Visiting Research Student at Cornell University, Plant Pathology and Plant-Microbe Biology Section, Ithaca, U.S.*

Supervisor: Dr. Rebecca Nelson, Summer 2014

- Develop novel methods to detect endophyte content in the seedlings of maize.

## PUBLICATIONS

1. **Aguilar-Gómez, Diana**, Yuanting Jin, Débora Y. C. Brandt, Tyler A. Square, Jiasheng Li, Zhengxia Liu, Gang Shao, Tao Wang, Peter H. Sudmant, Craig T. Miller and Rasmus Nielsen. "Population genomics of variegated toad-headed lizard *Phrynocephalus versicolor* and its adaptation to the colorful sand of the Gobi Desert." *Submitted*
2. Chen, Ze-Hui, Ya-Xi Xu, Xing-Long Xie, Dong-Feng Wang, **Diana Aguilar-Gómez**, Guang-Jian Liu, Xin Li et al. "Whole-genome sequence analysis unveils different origins of European and Asiatic mouflon and domestication-related genes in sheep." *Communications Biology* 4, no. 1 (2021): 1-15.
3. Bheda, Poonam, **Diana Aguilar-Gómez**, Igor Kukhtevich, Johannes Becker, Gilles Charvin, Antonis Kirmizis, and Robert Schneider. "Microfluidics for single-cell lineage tracking over time to characterize transmission of phenotypes in *Saccharomyces cerevisiae*." *STAR protocols* (2020): 100228
4. Bheda, Poonam, **Diana Aguilar-Gómez**, Nils B. Becker, Johannes Becker, Emmanouil Stavrou, Igor Kukhtevich, Thomas Höfer et al. "Single-Cell Tracing Dissects Regulation of Maintenance and Inheritance of Transcriptional Reinduction Memory." *Molecular Cell* (2020).
5. Acosta, Armando, Gabriel Suárez-Varón, Luis A. Rodríguez-Miranda, Andrés Lira-Noriega, **Diana Aguilar-Gómez**, Mariana Gutiérrez-Mariscal, Oswaldo Hernández-Gallegos, Fausto Méndez-de-la-Cruz, and Diego Cortez. "Corytophanids Replaced the Pleurodont XY System with a New Pair of XY Chromosomes." *Genome Biology and Evolution* 11, no. 9 (2019): 2666.
6. Haojie Tong, Jiashen Li, Yubin Wo, Gang Shao, Wei Zhao, **Diana Aguilar-Gómez** and Yuanting Jin. "Effects of substrate color on intraspecific body color variation in the toad-headed lizard, *Phrynocephalus versicolor*." *Ecology and Evolution* 9, no. 18 (2019): 10253.
7. Vivian Link, **Diana Aguilar-Gómez**, Ciro Ramírez-Suástegui, Laurence D. Hurst, and Diego Cortez. "Male mutation bias is the main force shaping chromosomal substitution rates in monotreme mammals." *Genome biology and evolution* 9, no. 9 (2017): 2198-2210.
8. Adam F. Kebede, Anna Nieborak, Lara Zorro Shahidian, Stephanie Legras, **Diana Aguilar-Gómez**, Florian Richter, Marijke P. Baltissen, Gergo Meszaros, Helena de Fatima Magliarelli, Romeo Ricci, Michiel Vermeulen, Gerhard Mittler and Robert Schneider. "Histone propionylation is a novel mark of active chromatin". *Nature Structural & Molecular Biology* 24.12 (2017): 1048.

## TEACHING EXPERIENCE

- *Graduate Student Instructor* Integrative Biology Department at UC Berkeley
  - Population and Evolutionary Genetics (IB 161), Spring 2021 (Remote instruction),
- *Instructor* for Python Bootcamp, Center for Computational Biology at UC Berkeley
  - Winter 2021 (Remote instruction)
  - Winter 2020
- *Teaching Assistant* for Python Bootcamp, Center for Computational Biology at UC Berkeley
  - Summer 2018

## PRESENTATIONS

### Speaker

- *Genetic basis of coloration in frogs and lizards*
  - CCB Graduate Student Symposium on Computational Biology 2021
- *Adaptation of the Toad-headed Lizard to the Colorful Sand of the Gobi Desert*
  - Virtual Evolution Conference 2021
- *Mapping genetic variants underlying color polymorphism in *Oophaga pumilio**
  - CCB Student Lunch Seminar Spring 2019
- *Towards a functional assay for maize endophytes: seedling studies*
  - 4th Annual Undergraduate Research Symposium for Life Sciences, Cornell University 2014

### Poster

- *Genomics of the *Oophaga pumilio* polymorphism at the Bocas del Toro archipelago*
  - **Best Poster Award @** CCB Computational and Genomic Biology Retreat 2021
- *Adaptation of the Toad-headed Lizard to the Colorful Sand of the Gobi Desert*
  - SMBE Virtual Meeting 2021
  - CRA-URMD Conference 2020
  - CCB Computational and Genomic Biology Retreat 2019
  - Bay Area Population Genomics Conference, Fall 2019

- *Population genomics of the variegated toad-headed lizard, Phrynocephalus versicolor, and its adaptation to the colorful sand of the Gobi Desert*
  - CRA-W Grad Cohort 2019
  - Bay Area Population Genomics Conference, Spring 2019
- *Biological significance of genetic modules predicted by the natural decomposition approach*
  - EMBO Conference: From Functional Genomics to Systems Biology 2016

#### Panelist/ Workshops/ Seminar

- Ecology, Evolution, and Conservation Seminar for Master Students: Invited by Professor Lani at California State University, Sacramento Fall 2021 (virtual)
  - *Seminar: Genetic basis of coloration and population genomics of lizards and frogs*
- Graduate Student Success Panel: Invited by Berkeley International Office
- Biology X Data Science - Showcase / Workshop 2021: Invited to talk about teaching using the R Datahub at UC Berkeley
- HES x LAGESSES Panel 2020: Invited by the Hispanic Engineers and Scientists (HES) at UC Berkeley, to talk about graduate school and encourage minorities to apply
- Berkeley Connect Comp Bio Grad Student Panel 2020: Invited to talk about grad school applications and program experience to undergraduate students

#### ORGANIZER

- Northern California Computational Biology (NCCB) Student Symposium 2019
- Center for Computational Biology (CCB) Seminar Series 2018-2019
- Computational and Genomic Biology Retreat at UC Berkeley 2018
- Epigenetics Advanced Course, Genomic Science Program at UNAM 2016

#### SCIENCE COMMUNICATION

- [“Un T. rex por cada tres personas”](#). Nexos Simbiosis, Blog de Ciencia. July 11th, 2021
- [“Photographing nucleo-some friends”](#). Berkeley Science Review, Spring 2021
- [“An interview with Professional in Residence Mike Holmes: Pioneering genome editing tools in gene therapy”](#). Qb3 Berkeley. April 6th, 2020
- [“Searching for adaptation secrets in the Sahara Desert”](#). Qb3 Berkeley. August 5th, 2020
- [“El sexo no es un código binario”](#). Página de divulgación del Centro de Ciencias Genómicas, UNAM. May 2015
- [“Los descendientes de los dinosaurios”](#). Página de divulgación del Centro de Ciencias Genómicas, UNAM. March 2015

#### SKILLS

- **Languages:** Spanish (Native), English (Advanced), French (Intermediate), Portuguese (Elementary)
- **OS:** Linux, Mac, Windows
- **Programming languages:** Python, R, bash, LaTeX, Perl, Matlab

#### MEMBERSHIPS/ COMMITTEES

- **Mentorship Program CCB** 2021-2022
- **Society of Systematic Biologists (SSB)** 2021
- **Society for Molecular Biology and Evolution (SMBE)** 2020-2022
- **MEXASB:** Mexican Association of Students at Berkeley 2017-present  
*Vice President* 2021-2022
- **CCB DEI Committee:** CCB Diversity Equity and Inclusion Committee  
*Student representative* 2020-2021
- **LAGESSES:** Latinx Association of Graduate Students in Engineering and Science at UC Berkeley  
*Outreach Chair* 2019-2020  
*Public Relations Chair* 2018-2019
- **Systems Biology Research Team, Computational Genomics at UNAM** 2014-2017

#### REVIEWER

- *Molecular Ecology Resources*, November 2020
- *Biological Journal of the Linnean Society*, December 2020

#### MENTORING

- Adam Chois, UC Berkeley undergraduate (First Steps in Research Program)
- Irene Liang, UC Berkeley undergraduate

## **VOLUNTEERING**

- **Orientation Leader**  
Lead students for Berkeley International Office student orientation, Fall 2021
- **Literatura COVID**  
A project that made an effort to translate articles about COVID-19/SARS-Cov2 to Spanish, Spring 2020
- **BASIS (Bay Area Scientists in Schools)**  
Catapult Challenge at John Muir Elementary School in Berkeley, CA, October 2019
- **Caminos de Ciencia**, April 2019  
El Desafío de la catapulta: The Catapult Challenge, taught for Spanish speaking kids, at the Cesar Chavez Public Library in Oakland, CA
- **Jóvenes en Acción (Youth in Action)**, 2012-2013  
U.S. Department of State & Mexican Government Program. Civic education, community service, and youth leadership development.

## **RELEVANT COURSES/ WORKSHOPS TAKEN**

- Holistic Graduate Admissions Workshop with Julie Posselt, Fall 2020
- Science Writing for the Public Workshop form CCB at UC Berkeley, Spring 2020
- Principles and Techniques of Data Science UC Berkeley, Spring 2020
- Population and Evolutionary Genetics at UC Berkeley, Spring 2019
- Statistical Genomics at UC Berkeley, Spring 2018
- Introduction to Probability at an Advanced Level at UC Berkeley, Fall 2017
- Introduction to Statistics at an Advanced Level at UC Berkeley, Fall 2017