Marcos Chiñas Hernández

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Av. Universidad 898, Chamilpa, Cuernavaca, Morelos, Mexico.

Profile

I'm a specialist in Genomic Sciences, I have guided myself to acquire skills in experimental work and bioinformatics on interesting topics, learning from admirable people.

I'm motivated to participate in new challenging projects, to achieve the goals I work hard and independently.

RESEARCH INTEREST

- Cancer
- Immunology
- Gene regulation
- Transcriptomics, sc-genomics
- Software development
- Genome editing
- Deep Learning

Research experience

FEB 2020 - PRESENT

Advisor: Fidel Alejandro Sánchez | Sequencing and Bioinformatics Unit, Institute of Biotechnology UNAM, Cuernavaca, Morelos, Mexico.

I worked in the regulatory profile of prostate cancer cell line under AZD5363 treatment. I worked with RNA seq data and I carried out the enrichment analysis, interaction network using Cytoscape, and transcription factor activity analysis. I used R and R Markdown to create an automated report that is reproducible and applicable in other projects. I'm comparing the transcriptomic profile against 6 pancreatic cancer cell lines under AZD5363 treatment to contrast responses and identify resistance mechanisms.

DEC 2019 - JAN 2020

Advisor: Antônio Mauro Rezende | Instituto Aggeu Magalhães FIOCRUZ, Recife, Pernanbuco, Brazil.

I worked with Illumina data, performed data quality with FastQC, aligned reads with STAR, and used edgeR and DESeq2 for differential expression analysis.

SEP 2019 - DEC 2019

Advisor: Sabino Pacheco Guillén | Department of Molecular Microbiology, Institute of Biotechnology UNAM, Cuernavaca, Morelos, Mexico.

In this project, I worked on the design of guide RNA and in vitro tests for CRISPR-Cas9.

MAR 2018 - JUN 2018

Advisor: Sabino Pacheco Guillén | Department of Molecular Microbiology, Institute of Biotechnology UNAM, Cuernavaca, Morelos, Mexico.

Learning of molecular biology techniques (PCR, Gel electrophoresis, DNA extraction, Cloning of Cry genes, and Protein purification).

Education

UNDERGRADUATE PROGRAM ON GENOMIC SCIENCES

2017 - Today

National Autonomous University of Mexico (UNAM). Cuernavaca, Morelos, Mexico. Studying the eighth semester.

Impact of LCG graduates on research

International assessment of the LCG

Global Average: 9.33/10

HIGH SCHOOL AT "BACHILLERATO GENERAL ISTMEÑA"

2014 - 2017

Tehuantepec, Oaxaca, Mexico.

Grade: 10/10 Best high school average

Programming skills

ADVANCED LEVEL

- R
- Python
- Linux commands

BASIC LEVEL

- Perl
- C
- PHP
- SQL

Bioinformatics skills

- Statistics in R
- Differential expression analysis (edgeR, DESeq2)
- Genome assembly and annotation
- Data visualization: ggplot2, shiny
- Git & Github
- Static web pages using Jekyll & Github
- Variant analysis
- Bacterial typing

Basic knowledge:

- Single-cell analysis
- Phylogenetics
- Structural bioinformatics
- Motif discovery and ChIP-seq analysis

Languages

- Spanish (Native)
- English (Speak: Intermediate, Writing: Intermediate, Reading: Advanced)
- Portuguese (Basic level)

Awards

- UNAM-DGECI Initiation to Research, Summer-Autumn 2021. Results ID:418073593

Undergraduate courses

Cell Biology I and II, Biochemistry, Molecular Biology I and II, Introduction to genomic, Genetics, Principles of Evolution, Phylogenetic, Human Genomics, Epigenetics, Systems biology, Programming Principles, Computing, R, Principles of Statistics and Probability, Statistics, Introduction to bioinformatics, Bioinformatics I and II, Calculus, Linear algebra, Differential Equations I and II, Applications of genomics I and II (national genomics seminars), Frontiers in genomics I and II (international genomics seminars), Immunology, Genome assembly, Functional genomics.

Additional courses

- Coursera, Using Shiny to Plot Differential Gene Expression
- Johns Hopkins University (JHU) Command Line Tools for Genomic Data Science
- JHU Genomic Data Science with Galaxy
- JHU Understanding Prostate Cancer
- JHU Algorithms for DNA Sequencing
- JHU Python for Genomic Data Science
- JHU Bioconductor for Genomic Data Science
- JHU Statistics for Genomic Data Science
- JHU Introduction to Genomic Technologies
- DTU, Whole-genome sequencing of bacterial genomes - tools and application
- Harvard, Data Science: Productivity Tools
- Harvard, Data Science: Visualization

References

FIDEL ALEJANDRO SÁNCHEZ FLORES

Massive Sequencing and Bioinformatics Unit
Institute of Biotechnology - UNAM
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ANTÔNIO MAURO REZENDE

Microbiology Department
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SABINO PACHECO GUILLÉN

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Licenciatura en Ciencias Genómicas

VNIVERSIDAD NACIONAL AVFNOMA DE MEXICO

February, 2021

Subject: **Academic Records**

To whom it may concern:

This is to certify that **Mr. Marcos Chiñas Hernández**, with file number **418073593** is currently studying the eighth semester of the Undergraduate Program on Genomic Sciences of the National Autonomous University of Mexico (UNAM). This program comprises eight semesters with a total number of 384 credits.

Next, the grades obtained (on a 1 to 10 scale) on the First to seventh Semesters by Mr. Chiñas are listed as requested:

First Semester:	**Credits**	**Grades**
Cellular Biology	08	09
Biochemistry	08	09
Molecular Biology	08	09
Mathematics 1	08	10
Programming Principles	08	07
Seminar 1	08	09
Second Semester:		
Computation	08	07
Genetics	08	08
Mathematics 2	08	10
Statistics Principles	08	10
Evolution Principles	08	09
Seminar 2	08	10
Third Semester:		
Bioinformatics and Statistics 1	08	09
Evolutionary Genomics 1	08	08
Functional Genomics 1	08	09
Mathematics 3	08	08
Genomics Models	08	09
Seminar 3	08	10
Fourth Semester:		
Bioinformatics and Statistics 2	08	09
Evolutionary Genomics 2	08	08
Functional Genomics 2	08	08
Human Genomics	08	09
Mathematics 4	08	10
Seminar 4	08	10

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VNIVERSIDAD NACIONAL AVFNOMA DE MEXICO

Licenciatura en Ciencias Genómicas

Fifth semester:	**Credits**	**Grades**
Genomics Applications 1	08	10
Genomics Applications 2	08	10
Frontiers in Genomics 1	08	09
Frontiers in Genomics 2	08	09
Integrative Genomics 1	08	10
Integrative Genomics 2	08	10
Sixth semester:		
Genomics Applications 3	08	10
Genomics Applications 4	08	10
Frontiers in Genomics 3	08	10
Frontiers in Genomics 4	08	10
Integrative Genomics 3	08	10
Integrative Genomics 4	08	10
Seventh Semester:		
Research Project 1	06	10
Research project 2	06	10
Research Project 3	06	10
Selected Topics 1	10	10
Selected Topics 2	10	10
Research Seminars 1	10	10

Global Average: 9.33
Credits: 87.50%

If any further information is needed, please contact me.

Pablo Vinuesa

LICENCIATURA EN CIENCIAS GENOMICAS

Dr. Pablo Vinuesa Fleischmann
Coordinator of the Undergraduate Program
on Genomic Sciences
Centro De Ciencias Genómicas, UNAM