

# EVELIA LORENA COSS NAVARRETE

Postdoctoral fellowship at Laboratorio Internacional de Investigacion Sobre el Genoma Humano - UNAM | Gene regulation | Evolution | Bioinformatics | Autoimmune diseases | lncRNAs



## EDUCATION

2023  
|  
2018

### ● PhD, Plant Biotechnology

Centro de Investigacion y de Estudios Avanzados del IPN (Cinvestav),  
UGA-Langebio

📍 Guanajuato, Mexico

- Dr. Selene Fernandez Valverde
- Identification and characterization of conserved long non-coding RNAs in Brassicaceae.
- Grade: 9.3/10. First person to graduate from the generation.

2018  
|  
2016

### ● M. Sc., Plant Biotechnology

Centro de Investigacion y de Estudios Avanzados del IPN (Cinvestav),  
UGA-Langebio

📍 Guanajuato, Mexico

- Dr. Raul Alvarez Venegas and Dr. Stefan de Folter
- Effect of priming activation on bean nodule development and its relationship against *Pseudomonas syringae* pv. *phaseolicola*.
- Grade: 9.4/10. Second person to graduate from the generation.

2016  
|  
2012

### ● B.Sc., Biotechnology Engineering

Universidad Politecnica de Sinaloa (UPSiN).

📍 Sinaloa, Mexico

- Grade: 9.6/10.



## RESEARCH EXPERIENCE

2015

### ● Professional Practices 3 | Undergraduate Thesis Student

Centro de Investigacion y de Estudios Avanzados del IPN (Cinvestav),  
Irapuato.

📍 Queretaro, Mexico

- Dr. Raul Alvarez Venegas, Dr. Aaron Barraza Celis and Dr. Alejandra Hernandez Barrera
- Histochemical analysis of the effect of bean (*Phaseolus vulgaris* L.) trithorax group methyltransferases during nodulation.

Made with the R package  
[pagedown](#).

The source code is available at  
[EveliaCoss/CV](#) and is powered by  
[nstrayer/cv](#).

Last updated on 2024-01-18.

## CONTACT

✉ [ecoss@liigh.unam.mx](mailto:ecoss@liigh.unam.mx)

🐦 [EveliaCoss](#)

⌚ [EveliaCoss](#)

## PROGRAMMING LANGUAGES

**Expertise:** R and Rstudio, Bash,  
AWK, markdown/Rmarkdown

**Familiarity:** Git/Github, python

## LANGUAGES

Spanish - Native

English - B1 (TOEFL-IBT)

- 2015
- **Research Stay 1 (Delfin project)**  
Universidad Politecnica de Sinaloa (UPSiN).  Sinaloa, Mexico
    - Dr. Jesus Aaron Salazar Leyva
    - Characterization of the proteolytic properties of the crude extract of aguama fruit (*Bromelia pinguin* L).
    - Protease analysis by zymography.
- 2014
- **Professional Practices 2**  
Centro de Investigacion y de Estudios Avanzados del IPN (Cinvestav), Irapuato.  
 Guanajuato, Mexico
    - Dr. Raul Alvarez Venegas and Dr. Aaron Barraza Celis
    - Analysis of histone methyltransferases expression in different tissues of bean (*Phaseolus vulgaris*) plant.
- 2014
- **Social Service**  
Facultad de Ciencias del Mar (FACIMAR), Universidad Autonoma de Sinaloa (UAS)  
 Sinaloa, Mexico
    - Dr. Miguel Angel Hurtado Oliva and M.C. Idalia Osuna Ruiz
    - Standardization of biochemical methods in aquatic organisms.
- 2014
- **Research Stay 1 (Delfin project)**  
Facultad de Ciencias del Mar (FACIMAR), Universidad Autonoma de Sinaloa (UAS)  
 Sinaloa, Mexico
    - M.C. Idalia Osuna Ruiz.
    - Standardization of biochemical methods for microalgae.
- 2013
- **Professional Practices 1**  
Centro de Investigacion en Alimentacion y Desarrollo (CIAD)  
 Sinaloa, Mexico
    - M.P.A. Noemi Garcia Aguilar and M.C. Gabriela Velasco Blanco
    - Cultivation of herbs (*Mentha spicata*), oregano (*Origanum vulgare*), radish (*Raphanus sativus*), green forage and Tilapia (*Oreochromis sp*) in an aquaponic system.



## TEACHING EXPERIENCE

2024

- **Introduction to RNA-seq data analysis with R**

Estudios Superiores, Unidad Juriquila (ENES), UNAM

Queretaro, Mexico

- Main instructor: Dr. Alejandra Medina-Rivera
- Instructor for RNAseq\_classFEB2024
- Bioinformatics and Statistics 2, Genomic Sciences Program

2023

- **CDSB 2023 - Quality control in scRNA-Seq**

Virtual event

- Instructor for CDSB2023
- Comunidad de Desarrolladores de Software en Bioinformatica (CDSB), Nodo Nacional de Bioinformatica, Github: <https://github.com/ComunidadBioInfo/cdsb2023.git>

2023

- **Make your CV in R**

Centro de Ciencias Matematicas (CCM), UNAM

Virtual event

- Instructor for Make\_yourCV
- R-ladies Morelia, Github: [https://github.com/EveliaCoss/Make\\_yourCV](https://github.com/EveliaCoss/Make_yourCV)

2023

- **Workshop: Analysis of RNA-Seq Data**

Laboratorio Internacional de Investigacion sobre el Genoma Humano (LIIGH) UNAM

Virtual event

- Course coordinator: Evelia Coss
- Instructor and coordinator for RNASeq\_Workshop\_Nov2023
- Github: [https://github.com/EveliaCoss/RNASeq\\_Workshop\\_Nov2023](https://github.com/EveliaCoss/RNASeq_Workshop_Nov2023)

2023

- **Workshop: Database analysis in the medical area. Creating your analysis flows with R/Bioconductor.**

Centro Universitario de Ciencias de la Salud (CUCS) de la Universidad de Guadalajara (UdG)

Guadalajara, Mexico

- Instructor for Curso\_ProgramacionR\_CUCS\_Oct2023
- PhD in Human Genetics, Github: [https://github.com/EveliaCoss/Curso\\_ProgramacionR\\_CUCS\\_Oct2023](https://github.com/EveliaCoss/Curso_ProgramacionR_CUCS_Oct2023)

2023

- **Viernes de Bioinformatica (Bioinformatics Friday)**

Laboratorio Internacional de Investigacion sobre el Genoma Humano (LIIGH) UNAM

Queretaro, Mexico

- Course coordinator: Evelia Coss
- Instructor and coordinator for ViernesBioinfo2023
- Github: <https://github.com/EveliaCoss/ViernesBioinfo2023>

- 2023 ● **Introduction to RNA-seq data analysis with R**  
Estudios Superiores, Unidad Juriquilla (ENES), UNAM  
📍 Queretaro, Mexico
- Main instructor: Dr. Alejandra Medina-Rivera
  - Instructor for RNAseq\_classFEB2023
  - Bioinformatics and Statistics 2, Genomic Sciences Program, Github: [https://github.com/EveliaCoss/RNAseq\\_classFEB2023.git](https://github.com/EveliaCoss/RNAseq_classFEB2023.git)
- 2023 ● **Data analysis with R**  
Centro de Ciencias Matematicas (CCM), UNAM  
📍 Virtual event
- Instructor for Manipulacion\_de\_datos
  - R-ladies Morelia, Github: [https://github.com/R-Ladies-Morelia/Manipulacion\\_de\\_datos.git](https://github.com/R-Ladies-Morelia/Manipulacion_de_datos.git)
- 2022 ● **Helper in R Workshop and Git/Github**  
Centro de Ciencias Matematicas (CCM), UNAM  
📍 Virtual event
- Main instructor: Dr. Abraham Avelar Rivas, M.Sc. Diego Garfias Gallegos and M.Sc. Claudia Zirion Martinez
  - Helper for Software Carpentry
  - Software Carpentry, Web page: <https://czirion.github.io/2022-06-11-R-UNAM/>
- 2022 ● **Rmarkdown Introduction**  
Centro de Ciencias Matematicas (CCM), UNAM  
📍 Virtual event
- Instructor for Rmarkdown
  - R-ladies Morelia, Github: <https://github.com/EveliaCoss/Rladies-Morelia/tree/f2781e5484a665e750fc482484a771dfff28612e/Rmarkdown>
- 2022 ● **Data analysis and graphs in R**  
Centro de Ciencias Matematicas (CCM), UNAM  
📍 Virtual event
- Instructor for Marvel\_vs\_DCcomics
  - R-ladies Morelia, Github: [https://github.com/EveliaCoss/Rladies-Morelia/tree/f2781e5484a665e750fc482484a771dfff28612e/Marvel\\_vs\\_DCcomics](https://github.com/EveliaCoss/Rladies-Morelia/tree/f2781e5484a665e750fc482484a771dfff28612e/Marvel_vs_DCcomics)

## ↳ DATA SCIENCE WRITING

- 2022 ● **Plants & Python: A series of lessons in coding, plant biology, computation, and bioinformatics**
- VanBuren R , Rougon-Cardoso A, Amezquita EJ, Coss-Navarrete EL, Espinosa-Jaime A, Gonzalez-Iturbe OA, Luckie-Duque AC, Mendoza-Galindo E, Pardo J, Rodriguez-Guerrero G, Rosiles-Loeza PY, Vasquez-Cruz M, Fernandez-Valverde SL, Hernandez-Hernandez T, Palande S, and Chitwood. DH. Plants & Python: A series of lessons in coding, plant biology, computation, and bioinformatics, (2022). The Plant Cell, Volume 34, Issue 7, July 2022, Page e1, <https://doi.org/10.1093/plcell/koac187>



## PUBLICATIONS

2022

- **Transcriptome-guided annotation and functional classification of long non-coding RNAs in *Arabidopsis thaliana***

• Corona-Gomez, J.A., Coss-Navarrete, E.L., Garcia-Lopez, I.J. et al. Transcriptome-guided annotation and functional classification of long non-coding RNAs in *Arabidopsis thaliana*. *Sci Rep* 12, 14063 (2022). <https://doi.org/10.1038/s41598-022-18254-0>

2020

- **Capter 6- Induction of plant resistance to biotic stress by priming with B-aminobutyric acid (BABA) and its effect on nitrogen-fixing nodule development**

• Coss-Navarrete EL, Diaz-Valle A, Alvarez-Venegas R. Chapter 6 - Induction of plant resistance to biotic stress by priming with B-aminobutyric acid (BABA) and its effect on nitrogen-fixing nodule development, Editor(s): Mohammad Anwar Hossain, Fulai Liu, David J. Burritt, Masayuki Fujita, Bingru Huang, Priming-Mediated Stress and Cross-Stress Tolerance in Crop Plants, Academic Press, 2020, Pages 101-114, ISBN 9780128178928, <https://doi.org/10.1016/B978-0-12-817892-8.00006-4>.

2018

- **Down-regulation of PvTRX1h increases nodule number and affects auxin, starch, and metabolic fingerprints in the common bean (*Phaseolus vulgaris* L.)**

• Barraza A, Coss-Navarrete EL, Vizuet-de-Rueda JC, Martinez-Aguilar K, Hernandez-Chavez JL, Ordaz-Ortiz JJ, Winkler R, Tiessen A, Alvarez-Venegas R. Down-regulation of PvTRX1h increases nodule number and affects auxin, starch, and metabolic fingerprints in the common bean (*Phaseolus vulgaris* L.) (2018). *Plant Science*, Volume 274,Pages 45-58, ISSN 0168-9452, <https://doi.org/10.1016/j.plantsci.2018.05.006>

2017

- **CARACTERIZACION PARCIAL DE LA ACTIVIDAD COAGULANTE Y CASEINOLITICA DE LAS PROTEASAS DEL FRUTO DE AGUAMA (*Bromelia pinguin* L.)**

• Moreno-Henandez, J. M., Hernandez-Mancillas, X. D., Coss Navarrete, E. L., Banuelos-Perez, M. de J., Salazar-Leyva, J. A., Osuna-Ruiz, I., Rodriguez-Tirado, V. A., & Mazorra-Manzano, M. Angel. (2017). CARACTERIZACION PARCIAL DE LA ACTIVIDAD COAGULANTE Y CASEINOLITICA DE LAS PROTEASAS DEL FRUTO DE AGUAMA (*Bromelia pinguin* L.). *Biotecnia*, 19(2), 19-24. <https://doi.org/10.18633/biotecnia.v19i2.380>

2016

● **Partial Characterization of the Proteolytic Properties of an Enzymatic Extract From Aguama Bromelia pinguin L. Fruit Grown in Mexico**

- Moreno-Hernandez, JM, Hernandez-Mancillas, XD, Coss-Navarrete, EL, Mazorra-Manzano, MA, Osuna-Ruiz I, Rodriguez-Tirado, VA, Salazar Leyva JA. Partial Characterization of the Proteolytic Properties of an Enzymatic Extract From Aguama Bromelia pinguin L. Fruit Grown in Mexico. *Appl Biochem Biotechnol* 182, 181-196 (2017). <https://doi.org/10.1007/s12010-016-2319-x>



## TALKS AND POSTERS

2022

● **Sociedad Mexicana de Bioquímica (SMB) X**

Poster

📍 Yucatan, Mexico

- Co-authors: M.C. Evelia Lorena Coss Navarrete, Dr. Jose Antonio Corona-Gomez, Dr. Laurence Hurst, Dr. Stewart Gillmor, Dr. Katarzyna Oktaba, and Dr. Selene L. Fernandez-Valverde
- Conservation analysis of sequence-divergent lincRNAs in Brassicaceae

2021

● **FASEB 2021: The Mechanisms of Plant Development**

Poster

📍 Virtual event

- Co-authors: M.C. Evelia Lorena Coss Navarrete, Dr. Jose Antonio Corona-Gomez, Dr. Laurence Hurst, Dr. Stewart Gillmor, Dr. Katarzyna Oktaba, and Dr. Selene L. Fernandez-Valverde
- Transcriptomic-informed annotation and functional classification of long non-coding RNAs in *Arabidopsis thaliana*

2021

● **EMBL Symposium 2021: The Non-Coding Genome**

Poster

📍 Virtual event

- Co-authors: M.C. Evelia Lorena Coss Navarrete, Dr. Jose Antonio Corona-Gomez, Dr. Laurence Hurst, Dr. Stewart Gillmor, Dr. Katarzyna Oktaba, and Dr. Selene L. Fernandez-Valverde
- Transcriptomic-informed annotation and functional classification of long non-coding RNAs in *Arabidopsis thaliana*

2015

● **2nd Interinstitutional Congress of Young Researchers**

Talk

📍 Chihuahua, Mexico

- Co-authors: Coss Navarrete EL, Hernandez-Mancillas, XD, Salazar Leyva, JA.
- Biochemical characterization of a crude protease extract obtained from the wild plant aguama (*Bromelia pinguin*) native to southern Sinaloa.
- Biotechnology and agricultural science

2014

● **Delfin, Programa Interinstitucional para el fortalecimiento de la investigación y el posgrado del pacífico**

Talk

📍 Nayarit, Mexico

- Co-authors: Coss Navarrete EL, Osuna-Ruiz I
- Standardization of biochemical methods in aquatic organisms.



## COURSES

2024

- **Data Analysis - Python, Bash and GIT**  
Helper 📍 Morelia, Mexico
  - Instructors: Haydee Peruyero, Shaday Guerrero, Miguel Angel Magana
  - Web page: <https://miguel-mx.github.io/2024-01-24-ccm-unam-sw/>
  - The Carpentries

2023

- **Instructor training with The Carpentries** 📍 Virtual event
  - The Carpentries

2023

- **CDSB 2023: Creando paquetes de R/Bioconductor para análisis transcriptómico de célula única**  
Instructor and helper 📍 Virtual event
  - Main instructor: Dr. Joselyn Cristina Chavez Fuentes, Dr. Leonardo Collado-Torres, Dr. Alejandra Medina Rivera, Dra. Evelia Lorena Coss Navarrete, Dr. Laura Gomez Romero, Dr. Yalbi Balderas Martinez, Dr. Mirna Vazquez Rosas Landa, M.C. Jose Antonio Ovando Ricardez, M.C. Erick Cuevas Fernandez and Andres Arredondo Cruz
  - CDSB2023, DE in scRNA-SEq and R/Bioconductor packages
  - Comunidad de Desarrolladores de Software en Bioinformática (CDSB), Nodo Nacional de Bioinformática

2022

- **Analysis of biological and biomedical transcriptomic data using Artificial Intelligence (AI) and Machine Learning methods (ML) methods with R**  
UNAM 📍 Queretaro, Mexico
  - Main instructor: Dr. Javier De Las Rivas (CSIC-USAL-IBSAL, Spain), Dr. Maribel Hernandez Rosales (CINVESTAV, Mexico), Dr. Enrique De Las Rosa (CSIC-USAL-IBSAL, Spain), and Dr. Flavio Spetale (CIFASIS-CONICET-UNR, Argentina).
  - ISCB-LA SolBio BioNetMX Symposium 2022
  - RiaBio 2022

2022

- **The art and method of writing a Scientific Manuscript** 📍 Virtual event
  - Main instructor: Dr. Susan Marriott
  - BioScience Writers

2021

- **Genetic variants search** 📍 Virtual event
  - Main instructor: Dr. Victor Flores
  - ATGenomics

- 2021 ● **Network analysis using igraph for R: a primer**  Virtual event
- Main instructor: Dr. Guillermo de Anda Jauregui
  - 2nd Workshop in advanced Bioinformatics
- 2021 ● **Co-expression networks**  Virtual event
- Main instructor: Dr. Katja Nowick
  - 2nd Workshop in advanced Bioinformatics
- 2021 ● **Network medicine**  Virtual event
- Main instructor: Dr. Deisy Gypsi
  - 2nd Workshop in advanced Bioinformatics
- 2019 ● **CABANA workshop: Introduction to R and Bioconductor for genomic analyses**  
Centro de Investigacion y de Estudios Avanzados del IPN (Cinvestav),  
UGA-Langebio  Guanajuato, Mexico
- Main instructor: Dr. Cei Abreu Goodger and Dr. Benilton Carvalho
  - CABANA
- 2019 ● **Theoretical and Practical HiC Workshop: Wet-Lab and Bioinformatics**  
Centro de Investigacion y de Estudios Avanzados del IPN (Cinvestav),  
UGA-Langebio  Guanajuato, Mexico
- Main instructor: Dr. Selene Fernandez-Valverde, Dr. Francisco Perez.  
America Ramirez and Emilio Sotelo
  - The Royal Society
- 2012 ● **Mantenimiento correctivo de Computadoras**  
Universidad de Occidente Unidad Mazatlan  Sinaloa, Mexico
- Main instructor: M.C. Raymundo Magana

## SCIENCE COMMUNICATION

- 2023 ● **Los Neutrofilos, chile del que pica o chile del que no pica?**  
Paper
- Co-authors: Karr de Leon S, Coss-Navarrete EL, Brunck ME.
  - El linfocito - numero 3

- 2022
- **Conservacion de lincRNAs en Brassicaceaes**  
Talk  
    - Ciclo de “Bases y Bytes: Platicas de Bioinformatica”
    - Universidad Politecnica de Sinaloa (UPSiN).
- 2021
- **PODCAST animalitos & plantitas: EP01 El cafe mas caro del mundo con Evelia Coss**  
Talk  
    - The Biologist Apprentice
- 2021
- **Tercer mesa redonda “Trayectorias academicas”**  
Talk  
    - El Rincon de la Ciencia
- 2019
- **Identificacion y caracterizacion de ARNs largos no codificantes conservados en Brasicaceas**  
Talk  
    - Semana Tecnologica
    - Tecnologico Nacional de Mexico, Instituto Tecnologico Superior de Purisima del Rincon