

JOSELYN C. CHÁVEZ-FUENTES

I am an enthusiastic Ph.D. Candidate interested in transcriptional regulation and epigenetics. During the last year of my bachelor's, I started developing research skills at [CINVESTAV Irapuato](#) studying epigenetics in the common bean *Phaseolus vulgaris*, learning molecular biology techniques such as PCR, DNA cloning, and generation of transient modified plants. I did a master's at the [Biotechnology Institute-UNAM](#) in Cuernavaca, Mexico, focused on the study of telomeric maintenance and expression of telomeric retrotransposons of *Drosophila melanogaster* as a model organism for the study of the ATPase Atrx, responsible for the human Atrx syndrome. During my master's degree, I learned several molecular biology techniques such as Real-time qPCR, western blotting, northern blotting, *in situ* hybridization, immunostaining, and Chromatin Immuno Precipitation.

While doing the master's, I took several R courses for analyzing my experimental results, mostly focused on plot generation and statistic tests. The closure to the R language and the growing generation of genomics data made me realize the need to learn bioinformatics. In 2017, I started my Ph.D. in the [Computational Genomics Lab](#) focused on the study of bacterial and archaeal transcriptional regulation from a bioinformatics approach. During the Ph.D. I have had the opportunity to take several advanced programming courses and started developing my own R packages, both for my own research and for establishing external collaborations that lead to the publication of the [regutools package](#) in Bioconductor, a tool for managing the regulonDB database in a programmatic way.

Besides my research project, I enjoy teaching R. I have taught semestral courses inside my Graduate program and since 2019 joined diverse communities interested in teaching R and increase the community of software developers in Mexico and Latin America. As a board member of the Community of Developers in Software for Bioinformatics [CDSB](#), the Mexican Network of Bioinformatics [RMB](#), and as co-founder of the chapter [R-Ladies Cuernavaca](#), part of the global initiative R-Ladies, I organize and teach R workshops. Thanks to my interest and work on spreading the programming knowledge, I have been awarded scholarships from Bioconductor and the R Consortium to attend international conferences to present my contributions as a developer. Recently, I also received an invitation to be part of the organizing committee of the [useR conference 2021](#).



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CONTACT

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GROUPS

current
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2019

- **Board Member of the Community of Developers in Software for Bioinformatics [CDSB](#)**

- Teaching and organizing annual workshops available [online](#).

current
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2020

- **Board Member of the Bioinformatics Network of Mexico [RMB](#)**

- Teaching and organizing monthly bioinformatics short courses available [online](#).

current
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2019

- **Co-founder of [R-Ladies Cuernavaca](#)**

- Teaching and organizing meetups available [online](#)

LANGUAGE SKILLS



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

The source code is available on github.com/josschavezf/cv and is powered by [nstrayer /datadrivencv](#).

Last updated on 2021-04-17.



EDUCATION

current
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2017

- **PhD. Candidate, Biochemical Sciences**
Enrique Merino's Lab Biotechnology Institute, UNAM

• Thesis: Analysis of transcriptional regulatory elements among bacterial and archaeal phyla.

2017
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2015

- **M.Sc., Biochemical Sciences**
Viviana Valadez-Graham's Lab Biotechnology Institute, UNAM

• Thesis: Role of the proteins dAtrx and Daddl in the telomeric maintenance of *Drosophila melanogaster* (honors thesis project).

2013
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2009

- **B.S., Biotechnology Engineer**
Silao, Mexico UPIIG-IPN

• Thesis: Analysis of the PvuATXR3h gene regulation in secondary roots and during the nodule organogenesis of *Phaseolus vulgaris*.



RESEARCH EXPERIENCE

2013
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2012

- **Undergraduate Researcher**
Raúl Álvarez-Venega's Lab CINVESTAV-IPN

• Analysis of the PvuATXR3h gene regulation in secondary roots and during the nodule organogenesis of *Phaseolus vulgaris*.



TEACHING EXPERIENCE

2020

- **R for Bioinformatics**
Graduate course Biotechnology Institute, UNAM

• Part of the Graduate program of Biochemical Sciences.

2020

- **CDSB Workshop 2020: Building workflows with RStudio and Bioconductor for single cell RNA-seq analysis.**
TIBs 2020 Virtual format

• Instructor and organizer.

2020

- **Introduction to R and RStudio**
RMB mini courses Virtual format

• Instructor and organizer.

- 2019 ● **Programming with Perl**
Graduate course  Biotechnology Institute, UNAM
 - Part of the Graduate program of Biochemical Sciences.
- 2019 ● **Programming with R: writing packages**
RUNA, Peru  Virtual format
 - One-week invited online course.

POSTS

- 2021 ● [First Annual Meeting R-Ladies Mexico](#)
R-LadiesMX blog
 - Summarizing the first annual meeting of all R-Ladies chapters in Mexico.
- 2021 ● [Preparing for an Accessible Online Conference](#)
UseR2021 blog
 - Accessibility guidelines for virtual conferences.

R PACKAGES

- 2020 ● [regutools](#)
Co-author and Maintainer  Bioconductor
- 2020 ● [erba](#)
Author and Maintainer  GitHub

PUBLICATIONS

- 2021 ● **Complementary Tendencies in the Use of Regulatory Elements Transcription Factors, Sigma Factors, and Riboswitches in Bacteria and Archaea**
Journal of Bacteriology
 - Joselyn Chávez, Damien P. Devos, Enrique Merino
 - 2020 ● **Programmatic access to bacterial regulatory networks with regutools**
Bioinformatics
 - Joselyn Chávez*, Carmina Barberena-Jonas*, Jesus E Sotelo-Fonseca*, José Alquicira-Hernández, Heladia Salgado, Leonardo Collado-Torres, Alejandro Reyes
 - 2017 ● **dAdd1 and dXNP prevent genome instability by maintaining HP1a localization at Drosophila telomeres**
Chromosoma
 - Joselyn Chavez*, Juan Manuel Murillo-Maldonado*, Vanessa Bahena, Ana Karina Cruz, América Castañeda-Sortibrán, Rosario Rodriguez-Arnaiz, Mario Zurita & Viviana Valadez-Graham
- + Equal contribution

- 2015
- Expression profiling and down-regulation of three histone lysine methyltransferase genes PvATXR3h, PvASHH2h, and PvTRX1h in the common bean
Plant OMICS
 - Aaron Barraza, Francisco Luna-Martínez, **Joselyn C. Chávez-Fuentes**, Raúl Álvarez-Venegas,

🏆 AWARDS

- 2020
- **Diversity Scholarship**
RStudio::conf 2020 📍 San Francisco, USA
 - Attending the workshop: What they forgot to teach you about R? By Jenny Bryan
- 2019
- **Developer scholarship**
Bioc2019 📍 New York City, USA
 - Presenting a contributors short talk
- 2019
- **Developer scholarship**
Bioc2020 📍 Virtual format
 - Presenting a BoF and poster

🗣 TALKS AND POSTERS

- 2021
- **An introduction to the R/Bioconductor Ecosystem**
R-Ladies Baltimore 📍 Virtual format
 - Invited talk
- 2021
- **Efforts of the CDSB community**
ConectaR 2021 📍 Virtual format
 - Contributed talk with Erick Cuevas-Fernandez, Leonardo Collado-Torres and Alejandro Reyes.
- 2021
- **Panel: Initiatives with a gender perspective in science**
Physiology Institute, UNAM 📍 Virtual format
 - Invited talk
- 2020
- **Working with lists in R**
R-Ladies Cuernavaca 📍 Cuernavaca, Mexico
 - Meetup
- 2020
- **Writing our first Bioconductor package as members of the CDSB community**
Bioconductor Developers Forum 📍 Virtual format
 - Invited participation with Carmina Barberena-Jonas and Emiliano Sotelo-Fonseca

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| 2020 | <ul style="list-style-type: none">● CDSB community: efforts to strengthen the R/Bioconductor developer community in Mexico/LatAm
BioC2020
• Birds of a Feather session with Carmina Barberena-Jonas, Emiliano Sotelo-Fonseca, Leonardo Collado-Torres and Alejandro Reyes |  Virtual format |
| 2020 | <ul style="list-style-type: none">● Poster: The study of transcriptional regulatory elements using 'erba' reveals a phylum-dependent compensatory effect
BioC2020
• Contributed Poster. Authored with Damien P. Devos and Enrique Merino. |  Virtual format |
| 2020 | <ul style="list-style-type: none">● Panel: What we talk about when it comes to accessibility?
Latin-R Conference
• Invited participation |  Virtual format |
| 2020 | <ul style="list-style-type: none">● Creating a new wave of software developers in Mexico and Latin America
Open Source Software Contributors Meeting
• Contributed talk with Carmina Barberena-Jonas, Leonardo Collado-Torres and Alejandro Reyes |  Virtual format |
| 2020 | <ul style="list-style-type: none">● Panel: Challenges and Perspectives of R-LadiesMX
R-LadiesMX First Annual Meeting |  Virtual format |
| 2019 | <ul style="list-style-type: none">● A collaborative approach to improve access to bacterial regulatory networks using R/Bioconductor
Bioc2019
• Developer's talk presenting the regutools package. |  New York City, USA |
| 2019 | <ul style="list-style-type: none">● Introduction to R: variables and help
R-Ladies Cuernavaca
• Meetup |  Cuernavaca, Mexico |
| 2016 | <ul style="list-style-type: none">● Poster: The role of dAtrx ATPase in telomeric maintenance of Drosophila melanogaster.
2nd MexFly Meeting |  Mexico City, Mexico |
| 2016 | <ul style="list-style-type: none">● Poster: The role of dAtrx ATPase in telomeric maintenance of Drosophila melanogaster.
National Biochemistry Meeting |  Aguascalientes, Mexico |