

# 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 joined the organizing committee of the [useR conference 2021](#).



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## CONTACT

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## GROUPS

current  
|  
2019

- **Board Member of the Community of Developers in Software for Bioinformatics [CDSB](#)**
  - Teaching and organizing annual workshops available [online](#).
- **Board Member of the Bioinformatics Network of Mexico [RMB](#)**
  - Teaching and organizing monthly bioinformatics short courses available [online](#).
- **Co-founder of [R-Ladies Cuernavaca](#)**
  - Teaching and organizing meetups available [online](#)

current  
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2020

## LANGUAGE SKILLS



current  
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2019

*Made with the R package pagedown.*

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

*Last updated on 2021-04-20.*

## 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.
- **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).
- **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.
- **CDSB Workshop 2020: Building workflows with RStudio and Bioconductor for single cell RNA-seq analysis.**  
TIBs 2020  Virtual format
  - Instructor and organizer.
- **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  Equal contribution  
• 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

- 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
  - **Developer scholarship**  
Bioc2020  Virtual format
    - Presenting a BoF and poster
  - **Developer scholarship**  
Bioc2019  New York City, USA
    - Presenting a contributors short talk

## 🗣 TALKS AND POSTERS

- 2021
- **An introduction to the R/Bioconductor Ecosystem**  
R-Ladies Baltimore  Virtual format
    - Invited talk
  - **Efforts of the CDSB community**  
ConectaR 2021  Virtual format
    - Contributed talk with Erick Cuevas-Fernandez, Leonardo Collado-Torres and Alejandro Reyes.
  - **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
  - **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"><li>● <b>CDSB community: efforts to strengthen the R/Bioconductor developer community in Mexico/LatAm</b><br/>BioC2020<br/>• Birds of a Feather session with Carmina Barberena-Jonas, Emiliano Sotelo-Fonseca, Leonardo Collado-Torres and Alejandro Reyes</li></ul> |  Virtual format           |
| 2020 | <ul style="list-style-type: none"><li>● <b>Poster: The study of transcriptional regulatory elements using 'erba' reveals a phylum-dependent compensatory effect</b><br/>BioC2020<br/>• Contributed Poster. Authored with Damien P. Devos and Enrique Merino.</li></ul>                                 |  Virtual format           |
| 2020 | <ul style="list-style-type: none"><li>● <b>Panel: What we talk about when it comes to accessibility?</b><br/>Latin-R Conference<br/>• Invited participation</li></ul>  |  Virtual format           |
| 2020 | <ul style="list-style-type: none"><li>● <b>Creating a new wave of software developers in Mexico and Latin America</b><br/>Open Source Software Contributors Meeting<br/>• Contributed talk with Carmina Barberena-Jonas, Leonardo Collado-Torres and Alejandro Reyes</li></ul>                         |  Virtual format           |
| 2020 | <ul style="list-style-type: none"><li>● <b>Panel: Challenges and Perspectives of R-LadiesMX</b><br/>R-LadiesMX First Annual Meeting</li></ul>  |  Virtual format         |
| 2019 | <ul style="list-style-type: none"><li>● <b>A collaborative approach to improve access to bacterial regulatory networks using R/Bioconductor</b><br/>Bioc2019<br/>• Developer's talk presenting the regutools package.</li></ul>  |  New York City, USA     |
| 2019 | <ul style="list-style-type: none"><li>● <b>Introduction to R: variables and help</b><br/>R-Ladies Cuernavaca<br/>• Meetup</li></ul>  |  Cuernavaca, Mexico     |
| 2016 | <ul style="list-style-type: none"><li>● <b>Poster: The role of dAtrx ATPase in telomeric maintenance of Drosophila melanogaster.</b><br/>2nd MexFly Meeting</li></ul>  |  Mexico City, Mexico    |
| 2016 | <ul style="list-style-type: none"><li>● <b>Poster: The role of dAtrx ATPase in telomeric maintenance of Drosophila melanogaster.</b><br/>National Biochemistry Meeting</li></ul>   |  Aguascalientes, Mexico |