

# Lorena Sofia López Zepeda

## Academic education

- 2017–present **PhD - Computational biology,**  
*Humboldt University of Berlin, Berlin Institute for Medical Systems Biology at the Max-Delbrück-Center for Molecular Medicine in the Helmholtz Association.*
- Title: Using pooled CRISPR Screens to Understand gene regulation.
    - Identifying transcription factors relevant to pluripotency in mESCs (collaboration with Mazzoni/Sanjana lab NYU)
    - Identifying genes involved in the transition from pluripotent cell to dendritic cells (collaboration with Reizis lab NYU)
    - Identifying long non-coding RNAs involved in pluripotency maintenance in mESCs.
    - Identifying regulatory regions for PHOX2B expression in a neuroblastoma cell line.
    - Building a tool for the analysis of time-series pooled CRISPR screens
  - Supervisor: Prof. Dr. Uwe Ohler
  - NYU supervisor: Dr. Neville Sanjana
- 2014–2016 **Master of Science - Molecular Medicine,**  
*Charite Universitatmedizin zu Berlin.*
- Final grade: 90/100
  - Project: Identification of metabolically relevant cycling genes and creation of a delay differential equation (DDE) model for adaptive thermogenesis in brown adipose tissue.
  - Thesis: Modeling Circadian Rhythms in Peripheral Tissues: Divide and Conquer
  - Advisor: Prof. Dr. Hanspeter Herzel
- 2007–2014 **Bachelor of Medicine,**  
*Universidad Nacional Autonoma de Mexico (UNAM).*
- Final grade: 90/100

## Internships

- January 2013–  
December 2013 **Medical Social Service,**  
*Cell Biology and Histology Department Medical Faculty UNAM, Mexico.*
- Supervisor: Dr Teresa Fortoul van der Goes
- January 2012–  
June 2012 **Research Internship,**  
*University Medical Center Groningen, The Netherlands.*
- Project: Assessing the effect of corticosteroids on the humoral and cellular immune response to Varicella Zoster virus in patients with Lupus.
  - Supervisor: Dr Hannie Westra
  - Department: Rheumatology

## Fellowships/Awards

- 2017–2020 **MDC/NYU Exchange program,**  
*Competitive fellowship from the MDC-NYU PhD Exchange Program.*
- 2015–2016 **DAAD Country-related cooperation programme with Mexico-CONACyT,**  
*Competitive Scholarship for graduate studies.*
- Jan 2012–  
June 2012 **Student mobility Scholarship,**  
*Competitive Scholarship for international exchange program with the University of Groningen.*

## Publications

- 2020 Garipler, Görkem, Congyi Lu, Alexis Morrissey, **Lorena S. Lopez-Zepeda**, Simon E. Vidal, Begüm Aydin, Matthias Stadtfeld, et al., “The BTB Transcription Factors ZBTB11 and ZFP131 Maintain Pluripotency by Pausing POL II at pro-Differentiation Genes.”, bioRxiv. <https://doi.org/10.1101/2020.11.23.391771..>

## Selected Talks and Presentations

- 2020 **Selected Talk**, *virtual conference CRISPR and Beyond: Perturbations at Scale to Understand Genomes*, "Temporal analysis of time-series CRISPR screen data using mixed linear models".
- 2019 **Poster Presentation**, *CRISPR and Beyond: Perturbations at Scale to Understand Genomes*, "Uncovering the role of lncRNAs in pluripotency maintenance with CRISPR perturbation screens".

## Relevant Courses

- 2017 **IRI Summer School "Epigenetics meets mathematics"**, *IRI Life Sciences, Humboldt-Universität zu Berlin (HU)*.

## Teaching Experience

- 2009-2010 **Immunology course**, *Teacher assistant*, Faculty of Medicine, UNAM.  
Mexico DF
- 2013-2014 **Cell Biology and Histology course**, *Teacher assistant*, Faculty of Medicine, UNAM.  
Mexico DF

## Outreach and Extracurricular activities

- 2019 **Presentation in the Berlin Long Night of Science at the MDC**.
- 2019 **Mental Health month at the MDC**, *Organizer*,  
Series of documents to highlight and support PhD students.
- 2017-2019 **PhD Representative**.

## Computer Skills

R language.  
Python.  
Shiny Apps.  
UNIX like OS.  
BASH.  
Conda.  
HTML/CSS.

## Languages

Spanish, *Native*.  
English, *Proficient*, C2.  
Italian, *Conversant*, B1.  
German, *Basic*, A1.

## References

**Prof. Dr. Uwe Ohler**,  
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