María Alejandra Valdez Cabrera

Personal Data

Place and Date of Birth:	City of Guatemala, Guatemala | November 11th, 1994
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Education

August 2013 - June 2018	Bachelor in Mathematics (five-year program) **University of Guanajuato** in collaboration with **the Mathematical Research Center (CIMAT)**, México Major: Statistics Gpa: 9.45/10
September 2018 - Present	PhD in Biostatistics (five-year programm) **University of Washington** Expected graduation time: June 2023

Scholarships

August 2013 - June 2018 CIMAT Undergraduate Scholarship for students with a high GPA

Research Experience

Current	Research Project Working with Dr. Ruth Etzioni from Fred Hutch on project about the performance of biomarkers on longitudinal studies.
April 2019- September 2019	Research Assitant *Fred Hutchinson Cancer Research Center* Working with Dr. Elizabeth Brown on project on biomarkers and HIV prevention.
January 2018- May 2018	Research Assistant *Mathematical Research Center (CIMAT)* Working with Dr. Víctor Pérez-Abreu, CIMAT's researcher, on applications of Topological Data Analisys in graph theory.
January 2018- May 2018	Research Assistant *Mathematical Research Center (CIMAT)* Working with Dr. Víctor Pérez-Abreu, CIMAT's researcher, on applications of Topological Data Analisys in graph theory.
August 2015- December 2016	Research Assistant *Mathematical Research Center (CIMAT)* Worked with Dr. Eloísa Díaz-Francés, CIMAT's researcher, on improving the use of binomial likelihoods in proportions estimations, specially on clinical trials. We gathered all the methods used in present day and marked down pros and cons.

Presentations

Summer 2016	"Homologically Persisten Skeleton for describing the border of objects in an Image" *IX Summer of Probability and Statistics in CIMAT.* Originally this was the topic of my final project in the Topological Data Analysis course during my 7th Semester. The professor of this class invited me to present it at the Summer School.

Publications

June 2019	Urquídez, O. and Valdez, M. "Design of heavy graphs with persistent n-cycles" *Morfismos, Vol. 22 No.1* This paper presents the resolution of problems discussed in the course "Applications of topology to neuroscience", given by Carina Curto and Vladimir Itskov during the III School of Topological Data Analysis and Stochastic Topology in Toluca, México. It will be published in the next volume of the journal Morfismos.

Awards

First Place	**Poster Contest of the XV Summer School of Probability and Statistics** *CIMAT, México-2017*
Honorific Mention	**The International Mathematical Olympiad** *Argentina- 2012*
Bronze Medal	**XXVII High school Iberoamerican Math Olympiad** *Bolivia- 2012*
Bronze Medal	**XXVI High school Iberoamerican Math Olympiad** *Costa Rica- 2011*
Bronze Medal	**XII Central American and Caribbean Math Olympiad** *Puerto Rico- 2010*
Bronze Medal	**XI Central American and Caribbean Math Olympiad** *Colombia- 2009*

Extracurricular Activities

January 2015- June 2018	Member of the Organizational Committee of National Elementary and Middle School Mathematical Olympiads program (ONMAPS) for the state of Guanajuato. Activities include designing, applying and grading selection tests, training the selected students and giving workshops to teachers of different schools.
January 2014 -December 2014	Volunteer at the Mathematics Educational Extension department of CIMAT (Matemorfosis). As part of this team I gave workshops of interactive mathematics to kids along the state of Guanajuato.

Languages

Spanish	Native
English	Fluent (TOEFL iBT Score: 108/120)
Japanese	Basic (3 semesters)

Programing Languages

C++ (6 years), Pascal (6 years), Python 2 (4 years), R (3 years), PHP (6 months), SQL (6 months)

Workshops/Conferences Attended

March 2017	XV Summer School of Probability and Statistics- Guanajuato, México.
January 2017	III School of Topological Data Analysis and Stochastic Topology- Toluca, México
November 2016	France-Mexico Meeting on Data Analysis- México City, México.
June 2016	IX Summer of Probability and Statistics- Guanajuato, México.
December 2015	II School/Conference of Topological Data Analysis- Querétaro, México.
August 2013	I Mathematical Congress of the Americas (as Staff)- Guanajuato, México.

Academic Interests

Biostatistics: Haplotype phasing, statistical genetics, Clinical Trials Design Process, Biomarkers, Pattern Recognition.

Mathematics: Topological Data Analysis, Graph Theory.

Non-Academic Activities

Sports: Scuba Diving, Archery, Horse Riding.
Cultural Activities: Writing- Won 1st place in a tale writing contest at the University of Guanajuato.