Antonio J. Torres

Personal Details

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Education

2019-2023 **PhD in Mathematics**, Universidad Nacional Autónoma de México (UNAM), Juriquilla, Mexico.
Advisor: Dr. Deborah Oliveros.
Thesis: Ramsey Type Theorems on Simplicial Complex Nerves.

2015-2018 **Master in Applied Mathematics**, Universidad Autónoma de San Luis Potosí (UASLP), Mexico.
Advisor: Dr. Gelasio Salazar Anaya.
Thesis: Blowing Circular Sequences to Search for Drawings with Few Crossings.

2008-2013 **Bachelor in Applied Mathematics**, Universidad Autónoma de Querétaro (UAQ), Mexico.
Advisor: Dr. Deborah Oliveros.
Thesis: A (p, q)-problem for Linear and Cyclical Orders.

Research

2021 From Word-Representable Graphs to Altered Tverberg-Type Theorems. *Oliveros D.,* ***Torres A.J.***, *Discret and Computational Geometry*, pending for publication, arXiv preprint, arXiv.2310.08563.

2023 A Model for Birdwatching and other Chronological Sampling Activities. *De Loera, J. A., Jaramillo-Rodriguez, E., Oliveros, D., &* ***Torres, A.J.***,The American Mathematical Monthly, 130(6), 541-558.

2023 On Tverberg Partition Graphs. *Oliveros D., Roldan E., Soberón P.,* ***Torres A.J.***, *SIAM Journal on Discrete Mathematics*, pending for publication, arXiv preprint, arXiv:2111.10038.

2024 On the Number of Vertices in a Hyperplane Section of a Polytope. *De Loera J.A., López-Campos G,* ***Torres A.J.***, arXiv preprint, arXiv:2111.10038. arXiv:2412.12419

Professional Experience

Teaching Experience

2024-present **Instructor**, University of California Davis, USA
Courses: Mathematics and Computers.

2022-2024 **Instructor**, Mexican Mathematics Olympiad, Querétaro Delegation.
Courses: Combinatorics, Geometry (high school level).

2018 - 2019 **Instructor**, Universidad Politécnica de Querétaro (UPQ), Mexico.
Courses: Calculus, Mathematical Functions, Linear Algebra.

2014 **Instructor**, Universidad Autónoma de Querétaro (UAQ), Mexico.
Role: Advisor for university admission tests.

Industry Experience

2017 - 2018   **Data Analyst**, Out Helping (Recruiting company), Mexico.
Role: Administration and management of the company's database.

Visiting Positions

Oct-Dec 2022   **Max Planck Institute**, Leipzig, Germany.
Collaborator: Dr. Erika Roldan Roa.

Professional Service and Community Outreach

2022-2024   Volunteer to prepare participants from the state of Querétaro for the Mexican Mathematics Olympiad.

2019-2023   Participant in various outreach events and fairs organized by the National Autonomous University of Mexico (UNAM).

2016-2023   Volunteer work to assist senior citizens in obtaining their high school diplomas.

2014   Volunteer teaching students of all levels in the community of Loma Bonita, Oaxaca, Mexico, during the teachers' strike.

Awards

2023-2025   Chancellor's Fellow Award.

2019-2023   National Scholarship for Graduate Studies, CONAHCYT.

Conferences and Workshops

Contributions to Event Organization

Sept 2023   **XII Latin-American Algorithms, Graphs and Optimization Symposium**, Huatulco, México.

Invited Research Conferences

Nov 2024   **Canadian Mathematical Society Winter Meeting**, Kwantlen Polytechnic University, Richmond, British Columbia, Canada

Jun 2023   **New Trends from Classical Theorems in Geometry**, CMO Oaxaca and Banff International Research Station, Oaxaca, Mexico

Jun 2023   **Interplay Between Geometric Analysis and Discrete Geometry**, CMO Oaxaca and Banff International Research Station, Oaxaca, Mexico

Oct 2019   **Helly and Tverberg Type Theorems, workshop**, CMO Oaxaca and Banff International Research Station, Oaxaca, Mexico

Speaker

Dec 2024   **Bay Area Discrete Math Conference**, UC Berkeley, Berkeley, USA

Jul 2024   **9th Postdoctoral Research Symposium**, UC Davis, Davis, USA

Apr 2023   **AMS Spring Central Sectional Meeting**, Ohio, USA

Jul 2022   **Latinx in the Mathematical Sciences Conference**, session chair, Los Angeles, USA

Oct 2019   **LII National Congress of the Mexican Mathematical Society**, Monterrey, Mexico

Mar 2018   **XXXIII Víctor Neumann-Lara Colloquium on Graph Theory**, Havana, Cuba

Oct 2013   **XLV National Congress of the Mexican Mathematical Society**, Mérida, Mexico

Oct 2012 **XLV National Congress of the Mexican Mathematical Society**, Mexico

Participant

Jun 2024 **Recent Progress on Optimal Point Distributions**, ICERM, Providence, USA

Apr 2022 **XXXVI Víctor Neumann-Lara Colloquium on Graph Theory**, online

Aug 2021 **Encuentro Nacional de Computación 2021**, online

Jun 2021 **Latinx Mathematicians Research Community** (LMRC), online

Mar 2017 **XXXIII Víctor Neumann-Lara Colloquium on Graph Theory**, San Luis Potosí, Mexico

Oct 2016 **XLV National Congress of the Mexican Mathematical Society**, Aguascalientes, Mexico

Nov 2016 **II Winter School in Mathematics**, Oaxaca, Mexico

Jun 2016 **III Summer School in Combinatorics**, Juriquilla, Querétaro, Mexico

Oct 2015 **XLV National Congress of the Mexican Mathematical Society**, Hermosillo, Mexico

Mar 2015 **XXVIII Víctor Neumann-Lara Colloquium on Graph Theory**, Oaxaca, Mexico

Mar 2013 **XXVIII Víctor Neumann-Lara Colloquium on Graph Theory**, Morelia, Michoacán, Mexico

Mar 2012 **XXVII Víctor Neumann-Lara Colloquium on Graph Theory**, Tlaxcala, Mexico

Oct 2011 **XLIV National Congress of the Mexican Mathematical Society**, San Luis Potosí, Mexico

Mar 2011 **XXVI Víctor Neumann-Lara Colloquium on Graph Theory**, Pachuca, Mexico

Oct 2009 **XLII National Congress of the Mexican Mathematical Society**, Zacatecas, Mexico

Technical Skills

Programming: C++, Python, R, Mathematica

Math editors: LaTeX

O.S: Windows, Linux, macOS

Languages

- **Spanish**
- **English**