

Saraí Hernández-Torres

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RESEARCH INTERESTS

Discrete Probability: uniform spanning forests, loop-erased random walks, growth processes, random walks, random trees, percolation models with long-range correlations, and their scaling limits.

ACADEMIC POSITIONS

- | | |
|-------------------------|---|
| July 2022
–present | INVESTIGADORA ASOCIADA C
Instituto de Matemáticas,
Universidad Nacional Autónoma de México (UNAM)
Mexico City, Mexico |
| Oct. 2020
–June 2022 | POSTDOCTORAL FELLOW
Technion – Israel Institute of Technology , Haifa, Israel
Hosts: Prof. Eviatar Procaccia and Prof. Ron Rosenthal |

EDUCATION

- | | |
|------|---|
| 2020 | Ph.D. in MATHEMATICS
University of British Columbia , Vancouver, Canada
Thesis: “A Macroscopic View on Two Discrete Random Processes”
Supervisors: Prof. Omer Angel and Prof. Martin Barlow |
| 2016 | M.Sc. in MATHEMATICS
University of British Columbia , Vancouver, Canada
Essay: “Collisions of Trajectories and Random Walks”
Supervisor: Prof. Martin Barlow |
| 2014 | B.Sc. in MATHEMATICS
Universidad de Guanajuato -
Centro de Investigación en Matemáticas (CIMAT) , Guanajuato, Mexico
Thesis: “Introducción a los Espacios de Bergman”
Supervisor: Prof. Fernando Galaz Fontes |

PUBLICATIONS & PREPRINTS

Published or accepted

1. *Sharp one-point estimates and Minkowski content for the scaling limit of three-dimensional loop-erased random walk*,
S. Hernandez-Torres, X. Li and D. Shiraishi.
To appear in **Annales de l’Institut Henri Poincaré (B) Probability and Statistics** arXiv e-print: [2403.07256](https://arxiv.org/abs/2403.07256). (54 pp.)

2. *Crossing bridges between percolation models and Bienaymé-Galton-Watson trees*,
A. Blancas, M. C. Fittipaldi and S. Hernandez-Torres.
XIV Symposium on Probability and Stochastic Processes. SPSP 2023.
Progress in Probability, Volume 81, 103–132 (30 pp.), Birkhäuser, Cham, 2025.
DOI: [10.1007/978-3-031-96118-2_4](https://doi.org/10.1007/978-3-031-96118-2_4). arXiv e-print: [2411.09621](https://arxiv.org/abs/2411.09621).
3. *Distance-dependent chase-escape on trees*,
S. Hernandez-Torres, M. Junge, N. Ray and N. Ray.
New Zealand Journal of Mathematics, Volume 55, 31–41 (11 pp.), 2024.
DOI: [10.53733/342](https://doi.org/10.53733/342). arXiv e-print: [2209.09876](https://arxiv.org/abs/2209.09876).
4. *The chemical distance in random interacements in the low-intensity regime*,
S. Hernandez-Torres, E. B. Procaccia and R. Rosenthal.
Communications in Mathematical Physics, Volume 400, 1697–1737 (41 pp.), 2023.
DOI: [10.1007/s00220-023-04634-8](https://doi.org/10.1007/s00220-023-04634-8). arXiv e-print: [2112.13390](https://arxiv.org/abs/2112.13390).
5. *Scaling limit of the three-dimensional uniform spanning tree and the associated random walk*,
O. Angel, D. A. Croydon, S. Hernandez-Torres and D. Shiraishi.
Annals of Probability, Volume 49, Number 6 (November), 3032–3105 (74 pp.), 2021
DOI: [10.1214/21-AOP1523](https://doi.org/10.1214/21-AOP1523). arXiv e-print: [2003.09055](https://arxiv.org/abs/2003.09055).
6. *The number of spanning clusters of the uniform spanning tree in three dimensions*,
O. Angel, D. A. Croydon, S. Hernandez-Torres and D. Shiraishi.
Advanced Studies in Pure Mathematics (Stochastic Analysis, Random Fields and Integrable Probability – Fukuoka 2019), Volume 87, 403–414 (12 pp.), Mathematical Society of Japan, 2021.
DOI: [10.2969/aspm/08710403](https://doi.org/10.2969/aspm/08710403). arXiv e-print: [2003.04548](https://arxiv.org/abs/2003.04548).
7. *Chase-escape with death on trees*,
E. Beckman, K. Cook, N. Eikmeier, S. Hernandez-Torres and M. Junge.
Annals of Probability, Volume 49, Number 5 (September), 2530–2547 (18 pp.), 2021
DOI: [10.1214/21-AOP1514](https://doi.org/10.1214/21-AOP1514). arXiv e-print: [1909.01722](https://arxiv.org/abs/1909.01722).

Preprints

8. *Chase-escape with conversion as a multiple sclerosis lesion model*,
E. Bailey, E. Beckman, S. Hernández-Torres, M. Junge, A. Kumar, A. Lee, D. Li, A. Raufov, L. Reeves and O. Rondel
arXiv e-print: [2507.21235](https://arxiv.org/abs/2507.21235).
9. *Allele trees for the mother-dependent neutral mutations model and their scaling limits in the rare mutations regime*,
A. Blancas, M. C. Fittipaldi and S. Hernandez-Torres.
arXiv e-print: [2504.20030](https://arxiv.org/abs/2504.20030).

SHORT-TERM RESEARCH VISITS

Jun.	2025	Research Institute for Mathematical Sciences (RIMS), Kyoto University. Host: David Croydon
Apr.	2024	City University of New York (CUNY). Host: Matt Junge
Jun.	2023	Technion – Israel Institute of Technology. Host: Eviatar Procaccia
Nov.	2022	California Institute of Technology. Host: Tom Hutchcroft
Apr.	2023	University of British Columbia. Host: Omer Angel
Nov.	2022	California Institute of Technology. Host: Tom Hutchcroft

GRANTS AND FUNDING

Projects

2026–2028	Principal Investigator, UNAM–DGAPA–PAPIIT IA106126 <i>Geometría y universalidad en árboles aleatorios</i>
2024–2025	Research project supported by L'Oréal–UNESCO–Academia Mexicana de Ciencias (AMC) <i>Geometría emergente en sistemas estocásticos discretos: transiciones de fase y criticalidad</i>
2024–2025	Principal Investigator, UNAM–DGAPA–PAPIIT IA103724 <i>Geometría aleatoria en gráficas</i>

Selected travel grants

2025	IMSA Travel Grant Award – Mathematical Congress of the Americas MCA 2025 Institute of the Mathematical Sciences of the Americas (IMSA)
2019–2020	Mathematical Research Communities Program American Mathematical Society (AMS); support for participation in a re- search workshop and the Joint Mathematics Meetings (JMM) 2020

HONORS AND AWARDS

Awards

2024	L'Oréal–UNESCO–AMC For Women in Science National Fellowship (Mexico) Beca para Mujeres en la Ciencia L'Oréal–UNESCO–AMC
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Scholarships and fellowships

2015–2020	Graduate Studies Scholarship Consejo Nacional de Ciencia y Tecnología (CONACYT)
2014	Faculty of Science Graduate Award University of British Columbia; graduate studies scholarship
2009–2014	Undergraduate Studies Scholarship Centro de Investigación en Matemáticas (CIMAT)
2012, 2014	Academic Excellence Scholarship Secretaría de Educación Pública (SEP)
2012	Academic Excellence Scholarship Universidad de Guanajuato; awarded to the student with the highest GPA in the mathematics degree program in that academic year

High school honors

2008	Mathematical Olympiads: Third place (national level) XXII Olimpiada Mexicana de Matemáticas (Mexican Mathematical Olympiad)
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TALKS

Research talks at conferences

27 talks: 3 plenary talks, 20 invited talks, 4 contributed talks

4 video recordings available online

Plenary talks

2025

- International Symposium on Stochastic Processes and Complex Systems, Tohoku Forum for Creativity, Tohoku University, Sendai, Japan
- Montréal - Guanajuato Workshop on Probability and Machine Learning, CIMAT, Guanajuato, Mexico

2023

- XIV Simposio de Probabilidad y Procesos Estocásticos

Invited talks

2025

- Special Session: “Recent Developments in Interacting Particle Systems and their Applications”, Mathematical Congress of the Americas (MCA), Miami, USA
- Special Session: “Discrete Stochastic Models and Applications”, Mathematical Congress of the Americas (MCA), Miami, USA
- Invited Session: “Geometry of Random Walks”, 44th Conference on Stochastic Processes and their Applications (SPA), Wroclaw, Poland
- Connections Workshop: Probability and Statistics of Discrete Structures, SLMATH, Berkeley, USA ([video](#))

2024

- Scientific Session: “Recent Progress of Stochastic Analysis”, CMS Winter Meeting and Related Fields, Richmond, Canada
- Workshop: Random Walks, Scaling Limits and Criticality, Herrsching am Ammersee, Germany
- Statistical Mechanics Beyond 2D, IPAM, UCLA, USA ([video](#))

2023

- Discrete Random Structures, Bedlewo, Polonia
- Potential Theory Workshop, CIMAT, Guanajuato, México
- XVI Latin American Congress of Probability and Mathematical Statistics (CLAPEM), São Paulo, Brazil
- 11th International Conference on Stochastic Analysis and its Applications (ICSAA), Edinburgh, UK
- BUC XXI Meeting. CIMAT, Guanajuato, Mexico

2022

- Analytic and Probabilistic Combinatorics. BIRS, Banff, Canada ([video](#))
- Special Session: “Random Trees and Graphs”, 42nd SPA Conference, China
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2021

- LXX Reunión de Comunicaciones Científicas, Reunión Anual de la Unión Matemática Argentina, Argentina ◇
- Special Session: “Interacting Stochastic Systems”, Mathematical Congress of the Americas (MCA), Argentina ◇
- Matemáticos Mexicanos en el Mundo, Casa Matemática Oaxaca, Mexico ([video](#)) ◇

2020

- “AMS Special Session on Stochastic Spatial Models”, Joint Mathematics Meetings (JMM), Denver, USA

2019

- Special Session: “Recent Advances in Probability and Stochastics”, Canadian Mathematical Society (CMS) Summer Meeting, University of Regina, Canada

2018

- Retreat for Young Researchers in Stochastics, BIRS, Canada *

Contributed talks

2021

- 8th Students Probability Day, Weizmann Institute of Science, Israel *

2019

- XV Latin American Congress of Probability and Mathematical Statistics (CLAPEM), Merida, Mexico *
- 49th Saint-Flour Probability Summer School, Saint-Flour, France *
- 11th Cornell Probability Summer School, Cornell University, USA *

Research talks at seminars

40 talks in seminars

5 video recordings available online

2025

- Seminário de Probabilidade, UFRJ, Rio de Janeiro, Brazil ◇
- Seminário de Probabilidade e Mecânica Estatística, Instituto Nacional de Matemática Pura e Aplicada (IMPA), Rio de Janeiro, Brazil ([video](#)) ◇
- Seminario de Análisis Matemático y sus Aplicaciones: Análisis, en todas partes, al mismo tiempo, Facultad de Ciencias, UNAM, Mexico City, Mexico
- Kansai Probability Seminar, Kyoto University, Japan
- Modeling, Computation, Nonlinearity, Randomness and Waves Seminar, University of Arizona, Tucson, USA
- Mathematical Physics and Probability Seminar, University of Arizona, Tucson, USA
- Probability Seminar, Duke University, Durham, USA
- Seminario del Departamento de Matemáticas, ITAM, Mexico City, Mexico

2024

- Seminario Aleatorio. ITAM, Mexico City, Mexico
- Seminario Sistemas Complejos y Física Estadística, Instituto de Física, UNAM, Mexico City, Mexico ([video](#))
- Seminario de Matemáticas Aplicadas, UAA, Aguascalientes, Mexico
- CUNY Probability Seminar, CUNY Graduate Center, New York City, USA
- Aleatorias y Normales - online seminar ◇

2023

- Technion Probability Seminar, Technion – IIT, Israel
- LU-UMN Joint Probability Seminar, Lehigh University - University of Minnesota, USA ◇
- UBC Probability Seminar, University of British Columbia, Canada

2022

- Los Angeles Probability Forum, UCLA, USA
- Seminario de Probabilidad y Procesos Estocásticos, UNAM, Mexico City, Mexico

- Seminario de Probabilidad, CIMAT, Guanajuato, Mexico
- Probability Seminar, University of Cambridge, UK
- Probability Seminar, Technische Universität München, Germany
- Percolation Today ([video](#)) ◇
- Probability Seminar, Peking University, China ◇

2021

- GFAP Seminar, Weizmann Institute of Science, Israel
- Technion Probability Seminar, Technion – I.I.T., Israel
- Seminario de Probabilidad Hispanohablante ◇
- Purdue Probability Seminar, Purdue University, USA ◇
- Probability Seminar Essen, Universität Duisburg-Essen, Germany ◇
- Probability Seminar, Cornell University, USA ◇
- Probability and Combinatorics Seminar, Uppsala universitet, Sweden ◇
- Probability Seminar of Americas ◇
- Joint Israeli Probability Seminar, Israel ([video](#)) ◇

2020

- Probability and Related Fields Seminar, Indiana University, USA ◇
- UBC Probability Seminar, University of British Columbia, Canada ([video](#)) ◇
- Probability and Related Fields Seminar, Indiana University, USA ◇
- Seminario de Probabilidad y Estadística, CIMAT, Mexico ◇
- Seminario de Probabilidad y Procesos Estocásticos, UNAM, Mexico ◇
- TAMU Probability Seminar, Texas A&M University, USA

2019

- UBC Probability Seminar, University of British Columbia, Canada
- Dynamics Seminar, University of Victoria, Canada

Colloquia

8 talks at colloquia

3 video recordings available online

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| Apr. | 2024 | Coloquio, Departamento de Matemáticas, Cinvestav Zacatenco, Mexico |
| Feb. | 2024 | Coloquio, Instituto de Matemáticas, Unidad Cuernavaca, UNAM, Mexico |
| Dic. | 2023 | Coloquio Interinstitucional de Matemáticas, Universidad de Guadalajara, Universidad Autónoma de Guerrero y Universidad de Sonora, Mexico (video) ◇ |
| May | 2023 | Coloquio, Centro de Ciencias Matemáticas, UNAM, Morelia, Mexico |
| Sep. | 2022 | Coloquio, Instituto de Matemáticas, UNAM, Mexico |
| May | 2022 | Coloquio Queretano, Instituto de Matemáticas, Unidad Juriquilla, UNAM, Mexico ◇ |
| Feb. | 2021 | Coloquio de Exalumnos de CIMAT/DEMAT, CIMAT, Mexico (video) ◇ |
| Nov. | 2020 | Coloquio Oaxaqueño de Matemáticas, IM-UNAM Oaxaca, Mexico (video) ◇ |

Mini-courses

2 mini-courses

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| July | 2022 | <i>“From random walks to metric spaces”</i>
Graduate Student Concentration Week on Metric Geometry
Texas A&M Workshop in Analysis and Probability, USA |
| July | 2022 | <i>“Teoremas de la forma en probabilidad”</i>
Geometría Prohibida, Universidad Autónoma de San Luis Potosí, Mexico |

Expository talks

25 expository talks: 20 for undergraduate and graduate students, 5 for pre-university students

3 video recordings available online

Graduate and undergraduate level

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| Oct. | 2025 | Seminario de Matemáticas Intuitivas M.Int, Instituto de Matemáticas, UNAM, Ciudad de México, México |
| Aug. | 2025 | Escuela de Verano en Matemáticas para Estudiantes Mujeres, Instituto de Matemáticas, UNAM, Mexico City, Mexico |
| Aug. | 2025 | Cuarta Escuela de Teoría Geométrica de Grupos, Centro de Ciencias Matemáticas, UNAM, Morelia, Mexico |
| Mar. | 2025 | Día Internacional de las Mujeres en Matemáticas. Instituto de Matemáticas, UNAM, Mexico City, Mexico |
| Nov. | 2024 | EMALCA: Temas recientes en Teoría de las Probabilidades Universidad de la Habana, Cuba |
| Aug. | 2024 | Escuela de Matemáticas de Occidente 2024, Universidad de Guadalajara, Guadalajara, Mexico. |
| July | 2024 | Segunda Escuela Conjunta SLP-CDMX de Dinámica, Combinatoria y Probabilidad, UASLP, San Luis Potosí, Mexico |
| Sep. | 2023 | XVII Congreso de Ciencias Exactas, UAA, Aguascalientes, Mexico |
| Aug. | 2023 | Primera Escuela Conjunta SLP-CDMX de Dinámica, Combinatoria y Probabilidad, Instituto de Matemáticas, UNAM, Mexico City, Mexico |
| Jun. | 2023 | EMALCA 2023, Centro de Ciencias Matemáticas, UNAM, Morelia, Mexico |
| Oct. | 2022 | 2do Fin de Semana de la Probabilidad en Cuernavaca, Instituto de Matemáticas, Unidad Cuernavaca, UNAM, Mexico |
| Sep. | 2022 | Hablando de Matemáticas, Instituto de Matemáticas, UNAM, Mexico (video) |
| Aug. | 2022 | Coloquio de Orientación Matemática, Ciencias TV, UNAM, Mexico (video) ◇ |
| June | 2022 | Pizza Seminar, Technion – Israel Institute of Technology, Israel * |
| Feb. | 2022 | Seminario Virtual de Matemáticas, Universidad de Colima, Mexico ◇ |
| April | 2021 | XIX Escuela de Probabilidad y Estadística, CIMAT, Mexico ◇ |
| Dec. | 2020 | Fest 2020, Independently Organized Conference ◇ |
| Sep. | 2020 | Seminario Junior de Estudiantes, Universidad de Guanajuato, Guanajuato, Mexico ◇ * |
| Sep. | 2020 | Lunch & Learn, Trinity Western University, Canada ◇ |
| Mar. | 2019 | Graduate Student Seminar, University of British Columbia, Canada |

High school and middle school level

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| Mar. | 2025 | “Matemáticas: magia que transforma”, Día de π , Colegio Isabel la Católica (middle school), San Nicolás de los Garza, Nuevo León, Mexico ◇ |
| Nov. | 2024 | “Explorando la forma de los ríos”, Fiesta de las Ciencias y las Humanidades, UNIVERSUM, Mexico City, Mexico * |
| Mar. | 2023 | “Caminando al azar entre fractales”, CiENPiés Matemático, Escuela Nacional Preparatoria de la UNAM Plantel 6 “Antonio Caso”, Mexico City, Mexico |
| Feb. | 2023 | “Caminando al azar entre fractales”, Ciclo del Día Internacional de la Mujer y la Niña en la Ciencia. Olimpiada de Matemáticas de la Ciudad de México, Mexico (video) ◇ |

Sep. 2020 “*Qué hace un matemático*”, Preparatoria de Tonalá, Universidad de Guadalajara, Tonalá, Jalisco, México

Panels

2 video recordings available online

- Mar. 2025 *Moderator*. “Mario Alberto Díaz Torres como amigo”, In Memoriam: Dr. Mario Alberto Díaz, Torres, IIMAS, UNAM, Mexico City, México
- Mar. 2025 *Participant*. “Caminos y Desafíos: Mujeres en la Ciencia Hoy”, Instituto de Ciencias de la Atmósfera y Cambio Climático, UNAM, Mexico City, Mexico ([video](#))
- Oct. 2023 *Moderator*. “Las Matemáticas Mexicanas en Norteamérica” 56 Congreso Nacional de la Sociedad Matemática Mexicana, San Luis Potosí, Mexico ([video](#))

Miscellaneous talks

- Jan. 2025 Open Problem Session, The Changing (of) Times. A Conference in Honor of María Emilia Caballero (one-hour joint activity with Laura Eslava)
- Aug. 2024 Lightning talk, Frontiers of Statistical Mechanics and Theoretical Computer Science, BIRS, Banff, Canada
- June 2021 Workshop discussion, SPDEs & friends (15 min. talk) $\diamond$ *

An asterisk (*) indicates a contributed talk.

A diamond ($\diamond$) indicates a talk online.

The supplemental information shows a comprehensive list of [events attended](#).

TEACHING

Teaching experience

Posgrado en Ciencias Matemáticas, UNAM,
Mexico City, México

<i>Instructor (Graduate level)</i>	2 courses
Probabilidad I (Probability I)	2026-I
Probabilidad en Estructuras Discretas (Probability in Discrete Structures)	2025-II

Facultad de Ciencias (FC), UNAM,
Mexico City, Mexico

<i>Instructor (Undergraduate level)</i>	7 courses
Procesos Estocásticos (Stochastic Processes)	2024-I, 2026-II
Probabilidad II (Probability II)	2023-II, 2025-I
Probabilidad I (Probability I)	2023-I, 2024-II
Probabilidad en Estructuras Discretas (Probability in Discrete Structures)	2024-II

University of British Columbia,
Vancouver, Canada

2019	<i>Workshop facilitator</i> Math 100: Differential Calculus with Applications to Physical Sciences and Engineering (Vantage College) Workshop sessions for international students, 2 hours per week.
2018	<i>Recitation instructor</i> Math 180: Differential Calculus with Physical Applications Workshop sessions with theory and exercises, 2 hours per week.
2017	<i>Course instructor</i> Math 100: Differential Calculus with Applications to Physical Sciences and Engineering Course with 60 students, 3 hours per week.
2014–2020	<i>Teaching assistant</i> Marked assignments and conducted tutorial sessions. Undergraduate courses assisted: Mathematical Game Theory (Math 344), Real Variables I (Math 320), Probability with Physical Applications (Math 318), Introduction to Probability (Math 302), Introduction to Complex Variables (Math 300), Differential Equations (Math 256), Multivariable Calculus (Math 253), Mathematical Proof (Math 220), Differential Calculus with Applications to Life Sciences (Math 102).
2014–2020	Tutor at the Math Learning Centre Drop-in tutorials offered to undergraduate students.

Universidad de Guanajuato / Centro de Investigación en Matemáticas (CIMAT),
Guanajuato, Mexico

2012–2014	<i>Teaching assistant</i> Marker; conducted tutorial sessions for Modern Algebra I, Complex Variables and Integral and Differential Calculus I & II.
2013	<i>Workshop Instructor</i> X Calculus Problem Solving Workshop Led a group of undergraduates for a week-long problem-solving workshop on calculus.

STUDENTS

Direction of undergraduate honours thesis

Apr. 2025	Jorge Emiliano Alvarez Gil Leyva Licenciatura en Matemáticas Aplicadas, Facultad de Ciencias, UNAM Thesis title: “Simulación de la evolución de Schramm-Loewner” Graduated with honors
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- Mar. 2025 Juan Pablo Rodríguez Villagrán
Licenciatura en Matemáticas, Facultad de Ciencias, UNAM
Thesis title: *“Percolación FK en gráficas de Cayley”*
Graduated with honors
- May 2024 Jeremai Reyes Garay
Licenciatura en Actuaría, Facultad de Ciencias, UNAM
Thesis title: *“Exponente de crecimiento en caminatas aleatorias con ciclos borrados”*
- Feb. 2024 Jorge Salvador Martínez Villafan. Co-direction with Dr. Laura Eslava
Licenciatura en Matemáticas Aplicadas, Facultad de Ciencias, UNAM
Thesis title: *“Redes de investigación en probabilidad y estadística en Latinoamérica: desarrollo y análisis estadístico de una base de datos con perspectiva de género”*

Direction of master’s thesis in progress

- Ana Saraí Dávila Martínez. Co-direction with Dr. José Simental
Posgrado en Ciencias Matemáticas, UNAM

Academic mentorship of master’s students

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| 3. | Rodrigo Iván Rodríguez Barrera, | 2026–in progress |
| 1. | Emmanuel Silva Amaya, | 2025–in progress |
| 2. | Jorge Emiliano Alvarez Gil Leyva, | 2024–in progress |

Thesis reading committees

Graduate

- Oct. 2025 Marco Antonio López Ortiz, PhD thesis
Doctorado en Ciencias Matemáticas, UNAM
- Jan. 2023 José Hermenegildo Ramírez González, PhD thesis
Probabilidad & Estadística PhD program, CIMAT

Undergraduate

- Jan. 2026 Frida Mariela Rosas Calva, undergraduate thesis
Licenciatura en Matemáticas, FC-UNAM
- Jul. 2025 Jesús Omar Franco Franco, undergraduate thesis
Licenciatura en Física, FC-UNAM
- Apr. 2025 Alejandra Guerrero Arelio, undergraduate thesis
Licenciatura en Matemáticas, FC-UNAM
- Mar. 2025 Daniel Fuentes del Río, undergraduate thesis
Licenciatura en Matemáticas Aplicadas, FC-UNAM
- Sep. 2024 Marco Fernando Guerrero Nava, undergraduate thesis,
Licenciatura en Matemáticas, FC-UNAM
- Sep. 2024 Héctor Daniel Alonso Orozco, undergraduate thesis,
Licenciatura en Matemáticas, FC-UNAM
- Sep. 2023 Hugo Guadalupe Reyna Castañeda, undergraduate thesis,
Licenciatura en Actuaría, FC-UNAM
- Aug. 2023 Alam Ponce Quiñones, undergraduate thesis
Licenciatura en Matemáticas Aplicadas, FC-UNAM

PROFESSIONAL DEVELOPMENT COURSES

Teaching accreditation

- 2018 Instructional Skills Workshop (24 hours workshop), UBC
- 2016 Math 599: Mathematics Teaching Techniques (33 hours course), UBC

Continuing education courses

- Aug. 2024 Taller de Introducción a la Divulgación de las Matemáticas. Instituto de Matemáticas, UNAM
- Jan. 2023 Online course: Conceptos básicos para la igualdad de género. UNAM, online course in Coursera

EVENT ORGANIZATION

Seminar organization

- 5. **Co-organizer**, Aug. 2022–*present*
[Seminario de Probabilidad y Procesos Estocásticos](#)
(Probability and Stochastic Processes Seminar), UNAM, Mexico
- 4. **Co-organizer**, Sep. 2024–Dec. 2024
[Seminario de caminatas aleatorias y álgebras de Hecke](#)
(Random walks and Hecke algebras), IM-UNAM, México
- 3. **Co-organizer**, Sep. 2022–*present*
Online Seminar for the Research Network of Latin American Women in Probability and Statistics: [Aleatorias y Normales](#)
- 2. **Co-organizer**, July–Nov. 2022
[Coloquio de ex-estudiantes CIMAT-DEMAT](#), Mexico
- 1. **Co-organizer**, Fall 2016–Spring 2018
UBC Probability Reading Group, University of British Columbia, Canada
Organized schedule and suggested topics

Conference, workshop, and summer school organization

- 9. **Lead organizer**, 4–9 Oct. 2026
[Discrete and Continuous Random Trees](#)
Casa Matemática Oaxaca (CMO), Oaxaca, Mexico
- 8. **Co-organizer**, 26–30 May 2025
[Mixtures of Probability and Geometry](#)
Casa Matemática Oaxaca (CMO), Oaxaca, Mexico
- 7. **Co-organizer**, 24–27 Mar. 2025
[Lecture Series: Interactions of Geometry and Probability](#)
Instituto de Matemáticas, UNAM and CINVESTAV, Mexico City, Mexico
- 6. **Co-organizer**, 5–19 July 2024
[Segunda Escuela Conjunta SLP-CDMX de Dinámica, Combinatoria y Probabilidad](#)
Universidad Autónoma de San Luis Potosí, San Luis Potosí, Mexico
- 5. **Co-organizer**, 31 July–4 Aug. 2023
[Primera Escuela Conjunta SLP-CDMX de Dinámica, Combinatoria y Probabilidad](#)
Instituto de Matemáticas, UNAM, Mexico City, Mexico

4. **Co-organizer**, July–Aug. 2021
[Open Online Probability School \(OOPS\)](#)
Organizational work for 10 mini-courses
3. **Co-organizer**, 14–18 Dec. 2020
[Fest 2020](#)
Organizational work for 10 talks and 1 mini-course
2. **Co-organizer**, May–Aug. 2020
[Open Online Probability School \(OOPS\)](#)
Event conception and organizational work. 13 mini-courses and 13 talks
1. **Short talks organizer**, 5–30 June 2017
[PIMS-CRM Summer School in Probability 2017](#)
Scheduled 29 short talks during the one-month summer school, assisted in participant communication and social activity organization

Organization of conference activities

3. **Courses coordinator**, 20–24 Oct. 2025
[Scientific Committee](#)
58 Congreso Nacional de la Sociedad Matemática Mexicana
Benemérita Universidad Autónoma de Puebla, México
2. **Co-organizer**, Nov. 29–Dec. 2 2024
[Discrete Probability Session](#)
2024 Canadian Mathematical Society Winter Meeting
Kwantlen Polytechnic University, Richmond Campus, Greater Vancouver Area, Canada
1. **Co-organizer**, Oct. 2022
[Sesión de Probabilidad](#) (Probability session)
55 Congreso Nacional de la Sociedad Matemática Mexicana, CUCEI, Universidad de Guadalajara, Hybrid event, Mexico

Organization of special events

3. **Local representative**, Dec. 2024–Dec. 2025
Local screening of the [Coloquio de la Sociedad Matemática Mexicana](#)
2. **Co-organizer**, 24–26 Sep. 2025
[In Memoriam Dr. Mario Alberto Díaz Torres](#)
IIMAS, UNAM, Mexico City, Mexico
1. **Local coordinator**, Oct. 9, 2024
Special outreach event: [Mathemalchemy: an Artistic and Mathematical Adventure](#)
presented by Ingrid Daubechies, Instituto de Matemáticas, UNAM, Mexico City, Mexico

ACADEMIC SERVICE

Academic committees

Aug. 2025 Ad hoc committee – faculty position in probability

Evaluation committees

- 2025 Referee for the evaluation of PAPIIT research proposals (Call 2026)
- 2023 Referee for CONAHCYT, Becas al Extranjero para Estudios de Posgrado 2023 (scholarships for graduate studies abroad)

Committees of scientific societies

Nov. 2025 Institute of Mathematical Statistics – Committee on Equality
–Aug. 2028 and Diversity
Representative for early-career researchers; appointed to the committee by invitation of the IMS President

Referee for:

ALEA - Latin American Journal of Probability and Mathematical Statistics
Annals of Applied Probability
Boletín de la Sociedad Matemática Mexicana
Communications in Mathematical Physics
Electronic Communications in Probability
Electronic Journal of Probability
Journal of Applied Probability
Journal of Theoretical Probability
Physical Review E. Statistical, Nonlinear, and Soft Matter Physics
Probability and Mathematical Physics
Probability Theory and Related Fields
Random Structures & Algorithms
Stochastic Processes and their Applications

OUTREACH

Mathematical olympiads

June 2024 Tutor of the Mexico City team at the Third National Women's Competition of the Mexican Mathematical Olympiad
Jan. 2010 Coach in the Guanajuato state team for the Mexican Mathematical
–Nov. 2012 Olympiad

Bilingual math outreach

May 2021 Teaching assistant, [Mathematics Sin Fronteras](#)
Brown University
Supported the mini-course "An introduction to error correcting codes"

LANGUAGES

SPANISH: Native
ENGLISH: Fluent

PROFESSIONAL AFFILIATIONS

Sociedad Matemática Mexicana	(SMM)
Sociedad Latinoamericana de Probabilidad y Estadística Matemática	(SLAPEM)
Bernoulli Society	(BS)
Institute of Mathematical Statistics	(IMS)
International Statistical Institute	(ISI)

Supplemental information

EVENTS

Workshops

- May 2025 [Mixtures of Probability and Geometry](#)
Casa Matemática Oaxaca, Oaxaca, Mexico
- Mar 2025 [CUWB-IV: Frontiers in Statistics and Probability](#)
IIMAS, UNAM, Mexico City, Mexico
- Feb. 2025 [Montréal - Guanajuato Workshop on Probability and Machine Learning](#)
CIMAT, Guanajuato, Mexico
- Aug. 2024 [Frontiers of Statistical Mechanics and Theoretical Computer Science](#)
Banff International Research Station (BIRS), Banff, Canada
- May 2024 [Workshop: Random Walks, Scaling Limits and Criticality](#)
Herrsching am Ammersee, Germany
- May 2024 [Statistical Mechanics Beyond 2D](#)
IPAM at UCLA, USA
- Jan. 2024 [CUWB-II Probability-on-Sea](#)
Playa del Carmen, Mexico
- Sep. 2023 [Potential Theory Workshop](#)
CIMAT, Guanajuato, Mexico
- Jan. 2023 [XXI Bath-UNAM-CIMAT \(BUC\)](#)
CIMAT, Guanajuato, México
- Nov. 2022 [Analytic and Probabilistic Combinatorics](#)
Banff International Research Station (BIRS), Banff, Canada
- July 2022 [TAMU Workshop in Analysis and Probability](#)
Texas A&M, College Station, USA
- June 2022 [Workshop: Challenges in Probability and Statistical Mechanics](#)
Technion – IIT, Haifa, Israel
- May 2022 [Latin American and Caribbean Workshop on Mathematics and Gender](#)
Hybrid event hosted at Casa Matemática Oaxaca in Mexico
- June 2021 [SPDEs & friends](#)
3-day online workshop organized in Berlin, Germany
- June 2019 [Mathematical Research Communities: Stochastic Spatial Models](#)
Rhode Island, USA
- June 2018 [Challenges in Probability and Mathematical Physics](#)
Centre de Recherches Mathématiques (CRM), Montreal, Canada

Conferences and Meetings

- Oct. 2025 [58 Congreso Nacional de la Sociedad Matemática Mexicana](#)
Benemérita Universidad Autónoma de Puebla, Puebla, Mexico
- Sep. 2025 [In Memoriam: Dr. Mario Alberto Díaz Torres](#)
IIMAS, UNAM, Mexico City, Mexico
- Aug. 2025 [International Symposium on Stochastic Processes and Complex Systems](#)
Tohoku Forum for Creativity, Tohoku University, Sendai, Japan
- July 2025 [Mathematical Congress of the Americas \(MCA\) 2025](#)
Miami, USA
- Jul. 2025 [44th Conference on Stochastic Processes and their Applications \(SPA\)](#)
Wroclaw, Poland

- Mar. 2025 [Lecture Series: Interactions of Geometry and Probability](#)
Instituto de Matemática, UNAM & Departamento de Matemáticas, Cinvestav, Mexico City, Mexico
- Jan. 2025 [Connections Workshop: Probability and Statistics of Discrete Structures](#)
SLMath, Berkeley, USA
- Jan. 2025 [The Changing of Times: A Conference in Honor of María Emilia Caballero](#)
Universidad Autónoma de Yucatán, Mérida, Mexico
- Nov. 2024 [2024 CMS Winter Meeting](#)
Kwantlen Polytechnic University, Richmond, Canada
- Oct. 2023 [56 Congreso Nacional de la Sociedad Matemática Mexicana](#)
Universidad Autónoma de San Luis Potosí, San Luis Potosí, Mexico
- Oct. 2023 [Discrete Random Structures](#)
Bedlewo, Poland
- July 2023 [XVI CLAPEM](#)
USP, São Paulo, Brazil
- June 2023 [11th International Conference on Stochastic Analysis and its Applications](#)
ICSAA, Edinburgh, UK
- Nov. 2022 [55 Congreso Nacional de la Sociedad Matemática Mexicana](#)
Hybrid event hosted by Universidad de Guadalajara, Guadalajara, Mexico
- Oct. 2022 [2do Fin de Semana de la Probabilidad en Cuernavaca](#)
Instituto de Matemáticas, Unidad Cuernavaca, UNAM, Mexico
- June 2022 [42nd SPA Conference](#)
Hybrid event hosted in Wuhan, China
- Dec. 2021 [Matemáticos Mexicanos en el Mundo](#)
Hybrid event hosted at Casa Matemática Oaxaca in Mexico
- July 2021 [Mathematical Congress of the Americas](#)
Online conference organized in Argentina
- May 2021 [Students Probability Day VIII. In memory of Oded Schramm](#)
Weizmann Institute of Science, Rehovot, Israel
- Jan. 2020 [Joint Mathematics Meetings](#)
Denver, USA
- Dec. 2019 [Latin American Congress of Probability and Mathematical Statistics](#)
Merida, Mexico
- June 2019 [CMS Summer Meeting](#)
University of Regina, Regina, Canada
- Oct. 2018 [Retreat for Young Researchers in Stochastics](#)
Banff International Research Station (BIRS), Banff, Canada
- July 2018 [XIX International Congress on Mathematical Physics](#)
Centre Mont-Royal, Montreal, Canada
- July 2018 [Young Researchers Symposium](#)
McGill University, Montreal, Canada
- July 2017 [Mathematical Congress of the Americas](#)
Centre Mont-Royal and McGill University, Montreal, Canada
- Aug. 2013 [Mathematical Congress of the Americas](#)
Guanajuato, Mexico
- Oct. 2012 [XLV National Congress of the Mexican Mathematical Society](#)
Universidad Autónoma de Querétaro, Queretaro, Mexico

Summer Schools

Aug.	2025	Escuela de Verano en Matemáticas para Estudiantes Mujeres Instituto de Matemáticas, UNAM, Mexico City, Mexico
Nov.	2024	EMALCA: Temas recientes en Teoría de las Probabilidades Universidad de La Habana, La Habana, Cuba
July	2024	Segunda Escuela Conjunta SLP-CDMX de Dinámica, Combinatoria y Probabilidad UASLP, San Luis Potosí, Mexico
Aug.	2023	Primera Escuela Conjunta SLP-CDMX de Dinámica, Combinatoria y Probabilidad Instituto de Matemáticas, UNAM, Mexico City, Mexico Universidad Autónoma de San Luis Potosí, Mexico
June	2023	EMALCA 2023 Centro de Ciencias Matemáticas, UNAM, Morelia, Mexico
Aug.	2022	X Escuela de Verano de Probabilidad y Procesos Estocásticos Instituto de Matemáticas, UNAM, Mexico
June	2022	Summer school: Geometría Prohibida
May	2021	CRM-PIMS Summer School in Probability
-June		Online summer school organized in Canada
July	2019	49th Saint-Flour Probability Summer School Saint-Flour, France
June	2019	11th Cornell Probability Summer School Cornell University, Ithaca, USA
Aug.	2017	Summer School in Graph Limits, Groups and Stochastic Processes MTA Alfréd Rényi Institute of Mathematics, Budapest, Hungary
June	2017	PIMS-CRM Summer School in Probability University of British Columbia, Vancouver, Canada
June	2015	CRM-PIMS Summer School in Probability
-July		McGill University, Montreal, Canada
Mar.	2014	XII Escuela de Probabilidad y Estadística Centro de Investigación en Matemáticas (CIMAT), Guanajuato, Mexico
June	2013	X Escuela de Verano en Matemáticas Instituto de Matemáticas, Unidad Cuernavaca, UNAM, Mexico
July	2011	IV Summer Program in Probability and Statistics Centro de Investigación en Matemáticas (CIMAT), Guanajuato, Mexico Research internship with Prof. José Alfredo López-Mimbela