

Saraí Hernández-Torres

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RESEARCH INTERESTS

Discrete Probability: uniform spanning forests, loop-erased random walks, competitive growth processes, random walks, random trees, and their scaling limits.

EMPLOYMENT

Oct. POSTDOCTORAL FELLOW
2020 – **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

2020	<i>The number of spanning clusters of the uniform spanning tree in three dimensions</i> , with O. Angel, D. A. Croydon and D. Shiraishi, to appear in Adv. Stud. Pure Math. Proceedings of “The 12th Mathematical Society of Japan, Seasonal Institute (MSJ-SI) Stochastic Analysis, Random Fields and Integrable Probability.” arXiv e-prints 2003.04548
Preprint	<i>Scaling limit of the three-dimensional dimensional uniform spanning tree and the associated random walk</i> , with O. Angel, D. A. Croydon and D. Shiraishi, arXiv e-prints 2003.09055
Preprint	<i>Chase-escape with death on trees</i> , with E. Beckman, K. Cook, N. Eikmeier and M. Junge, arXiv e-prints 1909.01722

TALKS

Research talks

- Nov. 2020 Coloquio Oaxaqueño de Matemáticas, IM-UNAM Oaxaca, Mexico @
- Oct. 2020 Probability and Related Fields Seminar, Indiana University, USA @
- Sep. 2020 UBC Probability Seminar, University of British Columbia, Canada @
- Sep. 2020 Probability and Related Fields Seminar, Indiana University, USA @
- May 2020 Seminario de Probabilidad y Estadística, CIMAT, Mexico @
- April 2020 Seminario de Probabilidad y Procesos Estocásticos, UNAM, Mexico @
- Jan. 2020 TAMU Probability Seminar, Texas A&M University, USA
- Jan. 2020 AMS Special Session on Stochastic Spatial Models, JMM, Denver, USA *
- Dec. 2019 Latin American Congress of Probability and Mathematical Statistics, Merida, Mexico

- Nov. 2019 UBC Probability Seminar, University of British Columbia, Canada
- Oct. 2019 Dynamics Seminar, University of Victoria, Canada
- July 2019 49th Saint-Flour Probability Summer School, Saint-Flour, France
- June 2019 11th Cornell Probability Summer School, Cornell University, USA
- June 2019 CMS Summer Meeting, University of Regina, Canada *
- Oct. 2018 Retreat for Young Researchers in Stochastics, BIRS, Canada *

Talks for undergraduate students

- Sep. 2020 Seminario Junior de Estudiantes, Universidad de Guanajuato, Mexico @
- Sep. 2020 Lunch & Learn, Trinity Western University, Canada @

An asterisk (*) indicates an invited talk and an arroba (@) indicates a talk online.

SCHOLARSHIPS AND AWARDS

- 2015–2020 Scholarship for Graduate Studies
Consejo Nacional de Ciencia y Tecnología (CONACYT)
- 2019 Stanley M. Grant Scholarship in Mathematics
Travel award, University of British Columbia
- 2014 Faculty of Science Graduate Award
Scholarship for graduate studies, University of British Columbia
- 2009–2014 Scholarship for Undergraduate Studies
Centro de Investigación en Matemáticas (CIMAT)
- 2012, 2014 Academic Excellence Scholarship
Secretaría de Educación Pública (Secretariat of Public Education, SEP)
- 2012 Academic Excellence Scholarship
Universidad de Guanajuato
- 2008 Bronze Medal
XXII Olimpiada Mexicana de Matemáticas (Mexican Mathematical Olympiad)

EVENTS

Workshops and Summer Schools

- July 2019 [49th Saint-Flour Probability Summer School](#)
Saint-Flour, France
- June 2019 [11th Cornell Probability Summer School](#)
Cornell University, Ithaca, USA
- 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

- 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–
July 2015 [CRM-PIMS Summer School in Probability](#)
McGill University. Montreal, Canada
- Mar. 2014 [XII School in Probability and Statistics](#)
Centro de Investigación en Matemáticas (CIMAT). Guanajuato, 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

Conferences and Meetings

- 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
- 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

TEACHING

Teaching Experience

[University of British Columbia](#),
Vancouver, Canada

2019	<i>Recitation instructor</i> Math 100: Differential Calculus with Applications to Physical Sciences and Engineering (Vantage College)
2018	Math 180: Differential Calculus with Physical Applications
2017	<i>Course instructor</i> Math 100: Differential Calculus with Applications to Physical Sciences and Engineering
2014– present	<i>Teaching assistant</i> 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) Tutor at the Math Learning Centre

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

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

Teaching Accreditation

2018 Instructional Skills Workshop, UBC
2016 Math 599: Mathematics Teaching Techniques Course, UBC

ORGANIZATION

May-Aug. 2020 **Organizer**, Online Open Probability School
June 2017 **Small talks organizer**, PIMS-CRM Summer School in Probability
2016 – 2018 **Organizer**, UBC Probability Reading Group

LANGUAGES

SPANISH: Native
ENGLISH: Fluent

PROFESSIONAL AFFILIATIONS

Sociedad Matemática Mexicana (SMM)
American Mathematical Society (AMS)
Sociedad Latinoamericana de Probabilidad y Estadística Matemática (SLAPEM)