Dr. Airam Blancas

Department of Statistics
ITAM
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Current Position

Associate professor C in the Department of Statistics at ITAM.

Personal information

Born in Culiacán, México on September 19, 1987.

Research Interests

Probability theory, Stochastic processes, Branching processes, Coalescent theory, Population genetics, Tree valued processes, Self-similar Markov processes, Lévy processes.

Education

2010–2015 **Ph. D.**, *Centro de Investigación en Matemáticas (CIMAT)*, Guanajuato, Mexico, *Probability and Statistics*.
Title: Two contributions to the theory of stochastic population dynamics.
Advisors: Dr. Víctor Rivero and Dr. Arno Siri-Jégousse.

2009–2010 **M. Sc.**, *CIMAT*, Guanajuato, Mexico, *Probability and Statistics*.
Title: On the number of segregation sites for populations with large family sizes and exponential functionals of Lévy processes, *written in spanish*.
Advisor: Dr. Víctor Rivero.

2004–2009 **B. Sc.**, *Universidad Autónoma de Sinaloa (UAS)*, Sinaloa, Mexico, *Mathematics*.
Best academic performance in my graduating class, 9.72 out of 10.

Professional experience

2019–Aug 2020 **Posdoctoral researcher**, *Stanford University*, US.
Mentors: Prof. Dr. Julia Palacios and Prof. Dr. Noah Rosenberg.

2016–2018 **Posdoctoral researcher**, *Goethe University Frankfurt*, Germany.
Mentor: Prof. Dr. Anton Wakolbinger.

Aug-Dic 2015 **Assistant professor**, *UAS, Bachelor program*.

2010-2013,2016 **Teacher assistant**, *CIMAT, Master program of of Science in Probability and Statistics*.

Awards

2020–2023 **Level 1 for National Researchers System of Mexico**.

2017– 2019 **Candidate for National Researchers System of Mexico**, *assessment by the National System of Researchers from the Science and Technology National Council (CONACyT)*.

2016– 2018 **Graduate scholarship for posdoctoral research stay**, *CONACyT*, Mexico.

2013 **Sofía Kovalévskaia**, *distinction awarded by Mexican Mathematical Society*, Mexico.

2010– 2014 **Graduate scholarship for Ph.D. degree**, *CONACyT*, Mexico.

2009– 2010 **Graduate scholarship for Master degree**, *CONACyT*, Mexico.

Publications

Refereed journal publications

1. The nested Kingman coalescent : speed of coming down from infinity. **A. Blancas**, T. Rogers, J. Schweinsberg and A. Siri-Jégousse. *Ann. Appl. Probab.* 29 (2019) 1808-1836
2. Tree within trees: simple nested coalescents **A. Blancas**, J.-J. Duchamps, A. Lambert and A. Siri-Jégousse.*Elec. J. Prob.* (2018) 23(94) 1-27
3. On branching process with rare neutral mutation. **A. Blancas**, and V. Rivero. *Bernoulli* (2018), 24(2) 1576-1612.

Papers in preparation

1. Evolving genealogies for finite populations under selection and competition. **A. Blancas**, S. Gufler, S. Kliem, V. C. Tran and A. Wakolbinger.
2. Evolving genealogies for branching populations under selection and competition. **A. Blancas**, S. Gufler, S. Kliem, V. C. Tran and A. Wakolbinger.

Selected presentations

2019 *A general multispecies coalescent model of neutral evolution*. 41st Conference on Stochastic Processes and Applications. Evanston, USA.

2019 *A general multispecies coalescent model of neutral evolution*. Bay area Population Genomics. Stanford, USA.

2018 *Simple nested coalescents*. National workshop in Biology and Probability. Center for Genomic Sciences of UNAM. Morelos, Mexico.

2018 *Nested coalescents*. Seminar for undergraduate students of Statistics and Applied Mathematics of UNAM. Mexico City, Mexico.

2017 *A review of the paper Generalized Fleming-Viot processes with immigration via stochastic flow of partition*. In the learning session "Tree valued Markov processes" of the conference Genealogies of Interacting Particles Systems. Institute of Mathematical Sciences, National University of Singapore.

2017 *Marked metric spaces for finite populations*. IX Meeting of the research platform Bath-UNAM-CIMAT. Guanajuato, Mexico.

2016 *Multispecies coalescents*. Probabilistic models in evolutionary biology. Mini Workshop at the University of Göttingen, Germany.

2016 *Multispecies coalescents*. Seminar of Probability and Statistics. University of Angers, France

2016 *On branching processes with rare neutral mutations*. Banff International Research Station for Mathematical Innovation and Discovery. Stochastic and Deterministic Models for Evolutionary Biology. Oaxaca, Mexico.

2015 *Simple neested coalescents process*. Probabilistic Models in Biology. Playa del Carmen, Mexico

2015 *On branching processes with rare neutral mutations*. Young women in probability 2014. Institute for Applied Mathematics, University of Bonn. Bonn, Germany

2014 *On branching processes with rare neutral mutations*. École de printemps de l'Agence National de la Recherche: Modèles aléatoires en écologie, génétique et évolution. Aussois, France.

2013 *On branching processes with rare neutral mutations*. First Berlin Meeting of Graduate Probability and Statistics Latinamerican Students. Technical University of Berlin.

Poster presentations

2019 *A general multispecies coalescent model of neutral evolution*. Scientific Retreat. Biomedical Data Science, Stanford Medicine. USA.

2014 *On branching processes with rare neutral mutations*. XII Latin American Congress of Probability and Mathematical Statistics Cartagena de Indias.

2013 *A population with neutral mutations conditioned to non extinction*. First Mathematical Congress of the Americas, Guanajuato, Mexico.

Academic visits

Nov 2018 Instituto de Investigaciones en Matemáticas Aplicadas y en Sistemas (IIMAS), UNAM, Mexico. Research visit to Dr. S. Palau.

Feb 2018 University of Duisburg-Essen, Germany. Research visit to Dr. S. Kliem.

Jun 2017 University of Duisburg-Essen, Germany. Research visit to Prof. Dr. A. Winter.

Dec 2016 University of Lille, France. Research visit to Prof. Dr. V. C. Tran.

Sep 2013 - Sorbonne University, France. Research stay to Prof. Dr. A. Lambert.
Jul 2014

Services

2015 **Committee member of undergraduate Senior Thesis**, *UAS*.

Other information

Languages. Spanish native speaker. English. Proficiency in written and spoken.
Programming. R.