Sebastían Troncoso

Contact Information

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Research Interests

Uniform Boundedness Conjecture, Arithmetic Dynamics, Diophantine Geometry, Non-Archimedean Analysis.

Education

- **Birmingham-Southern College**, AL, USA — **2017 − present**

  Visiting Assistant Professor

- **Michigan State University**, MI, USA — **2011 − 2017**

  Ph.D in Mathematics, Advisor: Aaron Levin

- **Pontificia Universidad Católica de Chile**, Santiago, Chile — **2009 − 2011**

  M.S Mathematics, Advisor: Herminia Ochsenius

- **Pontificia Universidad Católica de Chile**, Santiago, Chile — **2004 − 2009**

  Licenciatura en Matemáticas

Fellowship and Awards

"Dissertation Completion Fellowships", The Graduate School, MSU, Summer 2017.

"Doctorado en el Extranjero", National Scholarship , Becas Chile, 2014 − 2015.

"Matrícula de Honor", Pontificia Universidad Católica de Chile, 2006.

Publications

3. S. Troncoso , *" Bound for preperiodic points for maps with good reduction"*, Journal of Number Theory, vol. 181, pp. 51–72, 2017.
2. M. Berz and S. Troncoso, *"Affine invariant measures in Levi-Civita vector spaces and the Erdös obtuse angle theorem"*, Advances in ultrametric analysis, Contemp. Math., vol. 596, pp. 1–21, 2013.
1. S. Troncoso, *"A Multitude of orders in the field F_∞"*, Proceedings of the Second Mathematical Meeting in Memory of Herbert Gross (1936-1989), Note di Matematica e Fisica 13, CERFIM Locarno, pp. 47-50, 2009.

Preprint

2. J.K. Canci, S. Troncoso and S. Vishkautsan, *" Scarcity of finite orbits for rational finite orbits for rational functions."*, Arxiv:1711.04649.
1. S. Troncoso, *" Preperiodic hypersurfaces and preperiodic points."*, in preparation.

Presentations

"Scarcity of finite orbits for rational functions over a number fields.", Spring Southeastern Sectional Meeting, Vanderbilt University, Nashville TN, April 2018.

"Preperiodic hypersurfaces and preperiodic points", Joint Mathematics Meetings, San Diego, CA January 2018.

"K-rational preperiodic points.", Dynamical System Colloquium, University of Alabama Birmingham, Birmingham AL, September 2017.

"K-rational preperiodic hypersurfaces on P^n.", , Diophantine Approximation and Algebraic Curves, Banff International Research Station, Banff (Canada) July 2017.

"Bounds for preperiodic points for maps with good reduction", Joint Mathematics Meetings, Atlanta GA, January 2017.

"Bounds for preperiodic points for maps with good reduction", Poster, CNTA XIV (Canadian Number Theory Association), Calgary University (Canada) , Calgary 2016.

"A geometric problem in the Levi-Civita field", Algebra and Model Theory, Satellite Meeting AMS and SOMACHI (Chile) , Pucon 2010.

"Levi-Civita: Propiedades basicas y medida de lebesgue", Coloquio posgrado, Universidad de Concepcion (Chile), Concepcion 2010.

"Un Problema en Geometría No-Arquimediana", Séptimo Seminario de Análisis No-Arquimediano (Chile), Temuco 2010.

"Semiordenes y Formas Cuadráticas", Quinto Seminario de Análisis No-Arquimediano, Universidad de las Fronteras (Chile), Temuco 2008.

"Un Cuerpo que Admite Infinitos Ordenes Arquimedianos y No-Arquimedianos", Quinto Seminario de Análisis No-arquimediano, Universidad de las Fronteras (Chile), Temuco 2008.

Teaching Experience

Birmingham-Southern College, AL, USA

Instructor   **2017 – present**

Responsible for writing lesson plans, teaching, writing and grading quizzes/exams, holding office hours. I taught Precalculus, Calculus I, Abstract Algebra. Supervising three group of seniors in a research project in mathematics, my role is to provide guidance and encouragement as needed.

Michigan State Univeristy, MI, USA

Teaching Assistant   **2011 – 2017**

Responsible for writing lesson plans, teaching, writing and grading quizzes/exams, holding office hours, and working in the tutoring center (subjects ranging from algebra to advanced undergraduate mathematics). I taught Algebra, Applied Calculus, Calculus. I was also a grader for the qualifying sequence of Abstract algebra.

Pontificia Universidad Católica de Chile, Santiago, Chile

Teaching Assistant   **2006 – 2011**

Responsible for teaching small recitations. I taught all kind of courses like Calculus, Introduction to Computer Programming, Numerical Systems, Abstract Algebra, Linear Algebra, Complex Variables.

Service

- **Collaboration with the Spanish Department**   **2017 – Present**

  I was a guest lecture in an Spanish class and I am an external committee member for a senior project oral defense.
- **Organizer of the Student Algebra Seminar**   **2016 – 2017**

  Organized a weekly graduate student seminar at MSU in which students give talks on various topics in algebra.
- **Tutoring Center Supervisor and Lead TA**   **2012 – 2013**

  Responsible for operating the tutoring center; mentored tutors to become more effective; led exam review sessions for various undergraduate sections.

Miscellaneous

- **Languages:** English, Spanish, ASL (basic).
- **Programing Languages:** Java, C# , Latex .