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André P. Oliveira

Curriculum Vitae

Education

2015 – **Ph.D. in Mathematics**, *Wesleyan University*, Middletown, CT.
Advisor: Felipe A. Ramirez.
Anticipated graduation: May 2021.

2011 – 2015 **B.A. in Mathematics, B.A. in Computer Science**, *Manhattan College*, Riverdale, NY.

Research Interests

My research is primarily focused in Metric Number Theory from a Diophantine approximations perspective. I am particularly interested in the connections and interplay between real and p-adic Diophantine approximation.

Publications

submitted **Khintchine's Theorem with rationals coming from neighborhoods in different places**, (link).

preprint **How to hear the shape of a billiard table**, *(joint w. A. Calderon,S. Coles,D. Davis,J. Lanier)*, (link).
This work began at a research cluster on polygonal billiards, organized in summer 2017 by Moon Duchin.

2015 **Measurement and comparison of passing networks in collegiate soccer**, *(joint w. H. Tyler)*, Minnesota Journal of Undergraduate Mathematics, [S.l.], v. 1, n. 1, Dec. 2015., (link).
This work began during the 2014 Jasper Summer Fellow's program.

Talks

Invited

Nov. 2020 **Diophantine Approximations: From Pigeons to Continued Fractions**, *Undergraduate Colloquium, Manhattan College*.
This talk was recorded and can be viewed here.

Oct. 2020 **Diophantine Approximations: What do pigeons have to do with it?**, *403 Lecture, Southwestern University*.
This talk was recorded and can be viewed here.

Feb. 2019 **A Dynamical View of Numbers**, *Undergraduate Colloquium, University of Hartford*.

Contributed

Nov. 2020 **Khintchine's Theorem with rationals restricted to p-adic neighborhoods**, *Midwest Dynamical Systems Early Career Conference*.
This was a short pre-recorded talk connected to a poster session. The recording can be viewed here.

Feb. 2020 **On Diophantine approximations across completions of Q**, *Graduate Student Seminar, Wesleyan University*.

Sep. 2019 **How to hear the shape of a billiard table**, *Graduate Student Seminar, Wesleyan University*.

Oct. 2018 **A connection between badly approximable numbers and continued fractions**, *Graduate Student Seminar, Wesleyan University*.

May 2018 **Continued Fractions and Geodesics on the Modular Surface**, *Strength in Numbers, Queen's University, Canada*.

Mar. 2018 **Dani's Correspondence and Schmidt Games**, *Topology et al. Seminar, Wesleyan University*.

Sep. 2017 **Shedding light on Illumination**, *Graduate Student Seminar, Wesleyan University*.

Feb. 2017 **A brief glance at Ergodic Theory**, *Graduate Student Seminar, Wesleyan University*.

Oct. 2016 **A look at the $25,000,000,000 eigenvector**, *Graduate Student Seminar, Wesleyan University*.

Jan. 2015 **Defensive Forwards and Offensive Backs: The 2013 Season of Manhattan College Women's Soccer**, *Joint Mathematics Meetings, San Antonio*.
Travel partially funded by an MAA grant.

Teaching Experience

Instructor, Wesleyan University

Fall 2020 **Graduate Pedagogy**.
The course is aimed at first year Math Ph.D. students to introduce different pedagogic approaches and techniques. We also discuss the ethics of being mathematicians and instructors.

Fall 2019 **Elements of Calculus, Part I**.

Fall 2018 **Elements of Calculus, Part I**.

Fall 2017 **Introductory Calculus I**.

Spring 2017 **Introductory Calculus II**.

Graduate Teaching Assistant, Wesleyan University

Fall 2020 **Complex Analysis**.
Held office hours and graded homeworks.

Spring 2020 **Multivariable Calculus**.
Primarily held extra office hours. Also ran lectures on-and-off as needed throughout the semester.

Spring 2019 **Math Workshop**.
Helped students understand lecture notes and homework assignments for varying math classes including: Abstract Algebra, Real Analysis, Foundations of Mathematics, Statistics, and Applied Topology.

Spring 2018 **Real Analysis**.
Held office hours and wrote homework solutions.

Fall 2016 **Discrete Structures**.
Held office hours as well as graded homeworks and proofs.

Spring 2016 **Math Workshop**.
Helped students understand lecture notes and homework assignments for varying math classes including: Abstract Algebra, Linear Algebra, Multivariable Calculus, and Probability.

Fall 2015 **Introduction to Programming**.

Mentorship

Directed Reading Program

More information available on our website (drp.site.wesleyan.edu).

Spring 2019 **An Introduction to Ergodic Theory**.

Fall 2018 **Continued Fractions and Approximability**.

Service

At Wesleyan University

December 2019 – present **Co-Organizer**, *Graduate Student Seminar*.

July 2019 – present **Treasurer**, *AMS Local Graduate Student Chapter*.

Sep. 2018 – present **Co-organizer**, *Directed Reading Program*.

May 2017 – present **Webmaster**, *Graduate Student Association*.

May 2017 – Sep. 2018 **Graduate Community Standards Board member**, *Graduate Student Association*.

Aug. 2016 – July 2019 **President**, *AMS Local Graduate Student Chapter*.

Conferences Attended

Nov. 2020 **Midwest Dynamical Systems Early Career Conference**.
(virtual)

Jun. 2020 **Lattice Point Distribution and Homogeneous Dynamics**.
ICERM (virtual)

Sep. 2019 **Workshop on Dynamical Systems and Related Topics**.
Penn State

May 2019 **Midwest Dynamical Systems Early Career Conference**.
Ohio State University

Apr. 2019 **Beyond the Binary**.
University of Hartford

Apr. 2019 **Workshop on Dynamical Systems and Related Topics**.
University of Maryland

Sep. 2018 **Workshop on Dynamical Systems and Related Topics**.
Penn State

May 2018 **Houston Summer School on Dynamical Systems**.
University of Houston

May 2018 **Strength in Numbers**.
Queen's University, Kingston, Canada

Apr. 2018 **Upstate New York Number Theory Conference**.
University of Buffalo

Apr. 2018 **Workshop on Dynamical Systems and Related Topics**.
University of Maryland

Sep. 2017 **Women in Mathematics in New England September**.
Smith College

Jun. 2017 **Graduate Student Conference in Algebra, Geometry, and Topology**.
Temple University

May 2017 **Upstate New York Number Theory Conference**.
Binghamton University

Jan. 2017 **Joint Mathematics Meetings**.
Atlanta, GA

Jan. 2015 **Joint Mathematics Meetings**.
San Antonio, TX

Computer Skills

Programming Languages: Python, Javascript/NodeJS, HTML5, CSS3

Other: LaTeX, MarkDown, Linux, git, GitHub

References

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