

265 Church Street
Middletown, CT
06459, USA
☎ 1 (914) 469 2649
✉ aoliveira@wesleyan.edu
🌐 andrepoliveira.com
📧 apoliveira

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.I.], 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 \mathbb{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**.
Sole instructor. 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**.
Sole instructor during meeting hours with course materials created in conjunction with fellow instructors and faculty mentor.
- Fall 2018 **Elements of Calculus, Part I**.
Sole instructor during meeting hours with course materials created in conjunction with fellow instructors and faculty mentor.
- Fall 2017 **Introductory Calculus I**.
Sole instructor during meeting hours with course materials created in conjunction with fellow instructors and faculty mentor.
- Spring 2017 **Introductory Calculus II**.
Sole instructor during meeting hours with course materials created in conjunction with fellow instructors and faculty mentor.

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

Dr. David Constantine

dconstantine@wesleyan.edu

Department of Mathematics & Computer
Science
Wesleyan University
Science Tower 655
265 Church Street
Middletown, CT 06459

Dr. Moon Duchin

Moon.Duchin@tufts.edu

Tufts University
School of Arts and Sciences
Department of Mathematics
503 Boston Avenue
Bromfield-Pearson
Medford, MA 02155

Dr. Felipe Ramírez

framirez@wesleyan.edu

Department of Mathematics & Computer
Science
Wesleyan University
Science Tower 655
265 Church Street
Middletown, CT 06459

Dr. Christopher Rasmussen

casmussen@wesleyan.edu

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Science
Wesleyan University
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