

# Carlo Francisco “Paco” E. Adajar

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Department of Mathematics  
Athens, GA 30602

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## Research Interests

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Number theory, especially analytic and elementary. Currently studying questions about the distribution of additive and multiplicative arithmetic functions.

## Education

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<b>University of Georgia</b> <i>Ph.D. Candidate</i> Adviser: Paul Pollack	January 2021–present
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<b>University of the Philippines Diliman</b> M.S. Mathematics Adviser: Richell O. Celeste Thesis: <i>On odd near-perfect and deficient-perfect numbers with <math>k</math> distinct prime divisors</i>	June 2013–December 2020 July 2016
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<b>Ateneo de Manila University</b> B.S. Applied Mathematics, Major in Mathematical Finance	March 2013
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## Work Experience

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<b>University of Georgia</b> Graduate Teaching Assistant	January 2021–present
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<b>Ross Mathematics Foundation</b> Counselor, Ross Mathematics Program	2023, 2024
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<b>Mathematical Society of the Philippines</b> Test Development Committee, Philippine Mathematical Olympiad Observer B, Philippine Team to the International Mathematical Olympiad Deputy Team Leader, Philippine Team to the International Mathematical Olympiad	2016–present 2018 2020
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<b>University of the Philippines Diliman</b> Lecturer, Institute of Mathematics Instructor, Institute of Mathematics	August 2020–December 2020 August 2016–July 2020
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<b>PAREF Southridge School</b> Consultant, Mathematics Department	November 2013–March 2015
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<b>Mathematics Trainers' Guild of the Philippines</b> Trainer, Mathematical Olympiad Summer Training Program	April 2012–May 2012
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<b>Ateneo de Manila High School</b> Student Trainer, Department of Mathematics	August 2011–January 2012
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<b>Ateneo de Manila Grade School</b> Student Trainer, Department of Mathematics	August 2010–January 2011
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## Teaching Experience

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<b>University of Georgia</b> Math 1113: Precalculus Math 1113: Precalculus ( $\times 2$ ) Math 2250: Calculus I Math 2250: Calculus I Math 2250: Calculus I Math 1113: Precalculus ( $\times 2$ ) Math 2250: Calculus I	2021–present Fall 2021 Spring 2022 Fall 2022 Spring 2023 Fall 2023 Spring 2024 Fall 2024
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<b>University of the Philippines Diliman</b> Math 17: Algebra and Trigonometry ( $\times 3$ ) (discussion class) Math 53: Elementary Analysis I ( $\times 2$ ) (discussion class) Math 100: Introduction to Calculus (discussion class) Math 53: Elementary Analysis I ( $\times 2$ ) (discussion class)	2016–2020 1st Semester 2016–2017 1st Semester 2016–2017 2nd Semester 2016–2017 2nd Semester 2016–2017
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Math 54: Elementary Analysis II	Midyear 2017
Math 17: Algebra and Trigonometry (discussion class)	1st Semester 2017-2018
Math 54: Elementary Analysis II ( $\times 2$ ) (discussion class)	1st Semester 2017-2018
Math 53: Elementary Analysis I ( $\times 3$ ) (discussion class)	2nd Semester 2017-2018
Math 21: Elementary Analysis I ( $\times 2$ ) (discussion class)	1st Semester 2018-2019
Math 54: Elementary Analysis II ( $\times 2$ ) (discussion class)	1st Semester 2018-2019
Math 22: Elementary Analysis II ( $\times 4$ ) (discussion class)	2nd Semester 2018-2019
Math 55: Elementary Analysis III (taught for 1/3 of the semester)	2nd Semester 2018-2019
Math 100: Introduction to Calculus	Midyear 2019
Math 22: Elementary Analysis II	Midyear 2019
Math 23: Elementary Analysis III (discussion class)	1st Semester 2019-2020
Math 30: Intermediate Analysis and Applications	1st Semester 2019-2020
Math 54: Elementary Analysis II	1st Semester 2019-2020
Math 21: Elementary Analysis I	1st Semester 2020-2021
Math 23: Elementary Analysis III	1st Semester 2020-2021

## Books

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Institute of Mathematics, University of the Philippines Diliman. *Mathematics 21: Elementary Analysis I Course Module*. (2018) (editor)

E. P. Bautista and I. J. L. Garces. "Mathematical Excursions: A Problem-Solving Primer for Trainers and Olympiad Enthusiasts." C&E Publishing. (2010) (proofreader)

## Selected Talks and Presentations

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Unit Fraction Representations Over $\mathbf{Q}$ and $\mathbf{F}_q(t)$ UGA Mathematics Club, UGA	September 2024
Ehrhart theory Graduate Student Seminar, UGA	September 2023
Denser Egyptian fractions Graduate Student Seminar, UGA	September 2022
On statistical properties of prime-divisor counting functions Mock AMS, UGA	August 2022
The worst way to find the area of a circle Graduate Student Seminar, UGA	March 2022
Perfectly imperfect: on odd near-perfect, deficient-perfect, and spoof-perfect numbers Graduate Student Seminar, UGA	February 2021
On odd near-perfect and deficient-perfect numbers ZetaValue2019, Wako, Saitama, Japan	March 2019
Perfect, near-perfect, and deficient-perfect numbers 2016 MSP-NCR First Lecture Series	September 2016
On odd near-perfect and deficient-perfect numbers with $k$ distinct prime divisors ( <i>with Richell O. Celeste</i> ) Poster presented at: 2016 Asian Mathematical Conference	July 2016
On odd near-perfect and deficient-perfect numbers with $k$ distinct prime divisors 2016 MSP Annual Convention	May 2016

## Conferences and Research Schools Attended

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PANTS XXXVII  
University of Georgia, Athens, GA  
December 9–10, 2023

PANTS XXXVI  
Clemson University, Clemson, SC  
October 21–22, 2023

INTEGERS 2023  
University of Georgia, Athens, GA  
May 17–20, 2023

CTNT 2022

University of Connecticut, Storrs, CT  
June 6–12, 2022

100 Years of Mock Theta Functions: New Directions in Partitions, Modular Forms, and Mock Modular Forms  
Vanderbilt University, Nashville, TN  
May 22–23, 2022

CIMPA School on Group Actions in Arithmetic and Geometry  
Universitas Gadjah Mada, Yogyakarta, Indonesia  
February 17–28, 2020

Value Distribution of Zeta and L-Functions and Related Topics  
Riken, Wako, Saitama, Japan  
March 22–26, 2019

VIASM Summer School in Number Theory  
Vietnam Institute for Advanced Study in Mathematics, Hanoi, Vietnam  
June 18–24, 2018

SEAMS School 2017 Manila: Topics on Elliptic Curves  
University of the Philippines Diliman, Quezon City, Philippines  
July 16–25, 2017

2016 Asian Mathematical Conference  
Bali, Indonesia  
July 25–29, 2016

2016 MSP Annual Convention  
Cebu, Philippines  
May 30–31, 2016

## Mentoring

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### **Thesis (co-)adviser (at University of the Philippines Diliman)**

Allan James Acong (*with Jerome T. Dimabayao*) (B.S. Mathematics, 2019)  
Mark Joshua Bricenio (*with Jerome T. Dimabayao*) (B.S. Mathematics, 2019)

### **Undergraduate mentoring (through the UGA Department of Mathematics Directed Reading Program)**

Nicholas Follo (Fall 2021)  
Cooper Clickner (Spring 2022)  
Maximilian Bennett (Summer and Fall 2022)  
Abbie Ottosen (Spring and Fall 2023)  
Oliver Sima (Fall 2023)  
Alyssa Lovern (Spring 2024)  
Nayeong Kweon (Spring 2024)  
Stella Sweeney (Fall 2024)  
Marley Walter (Fall 2024)

## Service and Extension

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Co-organizer and question writer for the UGA High School Math Tournament since 2021.

Co-organizer of the Mathematics Directed Reading Program (DRP) at UGA since Summer 2022.

Peer mentor for first-year graduate students at UGA since Fall 2022.

Secretary of the AMS Graduate Student Chapter at UGA from 2021–2022.

Co-organized the SEAMS School Manila: Topics on Elliptic Curves held at the University of the Philippines Diliman in 2017.