

Schedule of Events for the
21st International Conference
on Fibonacci Numbers
and Their Applications



JULY 8-12, 2024 • HARVEY MUDD COLLEGE • CLAREMONT, CA



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Cover design by Zoe Messenger

Timetable

The location of all talks is the Drinkward Recital Hall.
All lunches are at the Hoch-Shanahan Dining Hall.

Monday, July 8

8:00–9:00	Registration (HMC Admissions Office)	
9:00–9:10	Welcome to Harvey Mudd by HMC President Harriet Nembhard	
9:10–9:20	Introductory Remarks by Art Benjamin	
9:25–9:45	Christian Ballot	Prime Factors of Fibonacci-related Recurrences
9:50–10:10	Anitha Srinivasan	The Generalized Markoff Equation
10:10–10:40	Coffee Break (Courtyard)	
10:40–11:00	Paul Thomas Young	Cullen numbers and Woodall numbers in Generalized Fibonacci Sequences
11:05–11:25	Nadir Murru	Algebraic Integers with Continued Fraction Expansions containing Palindromes
11:30–11:50	Brennan Benfield	Fixed Points of K -Fibonacci Pisano Periods
12:00–1:30	Lunch (at Hoch-Shanahan Dining Hall)	
1:30–1:50	Federico Accossato	Investigating Certain Second-Order Linear Recurrences with a Prescribed Number of Residues
1:55–2:15	Gessica Alecci	Linear recurrent sequences and R Algebras
2:20–2:40	Navvy Anand	Sum of Consecutive Terms of Pell and Related Sequences
2:40–3:10	Coffee	
3:10–3:30	Bob Bastasz	Pisano Periods with Unique Moduli
3:35–3:55	Oliver Lippard	Connections between Zeros in Pisano Periods and Prime Factors of Fibonacci Numbers
4:00	Group Photo (Courtyard)	
4:10–5:00	Reception (Shanahan B460)	

Tuesday, July 9

8:50–9:10	Giuliano Romeo	Properties of continued fractions over the field of p -adic numbers
9:15–9:35	Pante Stanica	On decompositions of permutations in quadratics and/or cubic permutations
9:40–10:00	Aram Tangboonduangjit	Periodic Constraints in Integer Compositions
10:05–10:25	Brian Hopkins	Water Cells and Ponds in Compositions of 1s and 2s
10:25–10:45	Coffee Break	
10:45–11:05	Elif Tan	Some notes on Fibonacci-like cubes
11:10–11:30	aBa Mbirika	Period patterns, entry points, and orders in the Lucas sequences: theory and applications
11:35–11:55	Rigoberto Florez	Fibonacci–Theodorus Spiral
12:00–1:30	Lunch	
1:30–1:50	Karl Dilcher	Polynomial sequences related to certain binary overpartitions
1:55–2:15	Karyn McLellan	A Problem on Two Sequences: Stern's Diatomic Sequence and the Binary Weight of n .
2:20–2:40	Jingkai Ye	Winning Strategy of Multiplayer and Multialliance Geometric Game– A Game Stemming From the Fibonacci Zeckendorf Game
2:40–3:10	Coffee	
3:10–3:30	Diego Garcia-Fernandezsesma	The Accelerated Zeckendorf Game
3:35–3:55	Yuda Chen	Arithmetic progressions not containing numbers of the form $p + F_n$
4:00–4:20	Delaney Cohn	Padovan Numbers are Cool: A Combinatorial Exploration of the Padovan Numbers
4:25–4:45	Jeff Lagarias	Continued Fractions, Dynamics, and Fibonacci Numbers

Wednesday, July 10

9:00–9:20	Brian Transeau	Grammy-Nominated Artist, Interviewed by Zoe Messenger
9:20–9:40	Jacqueline Cordes	How Vast Is Music? Exploring Musical Chromesthesia and the “Scale Space” with the Fibonacci Sequence
9:45–10:30	Jeanette Shakalli	The Fibonacci Game Show
10:30–11:00	Art Benjamin	Fibonacci Magic Show
11:00–11:50 Lucas Lecture	Jenny Quinn	Lessons that Really Count: The Fibonacci Edition
12:00–1:30	Lunch	
Afternoon	Excursion to the Magic Castle	

Thursday, July 11

8:50–9:10	Stephan Garcia	Quotient sets, Fibonacci numbers, and related curiosities
9:15–9:35	Mohammad Javaheri	The distribution of Fibonacci sequence modulo primes
9:40–10:00	Joaquim Cera Da Conceição	Divisibility of the rank of appearance of irreducible polynomials in the sequence of Fibonacci polynomials over $\mathbb{F}_q[T]$.
10:05–10:25	William Griffiths	The Structures of Generalized Delannoy Numbers Modulo Prime p
10:25–10:45	Coffee Break	
10:45–11:05	Douglas M. McKenna	How Fibbinary Zippers and Frozen Wedding Cakes Govern Self-Avoiding Approximation Paths of Generalized, Hilbert-Style, Square-Filling Curves
11:10–11:30	Paul K. Stockmeyer	New Representations of Numbers in Irrational-based Number Systems
11:35–11:55	Joseph Cooper and Glenn Bruda	Variants of Conway's Soldiers: Monovariant methods and Fibonacci jumping
12:00–1:30	Lunch	
1:30–1:50	Florian Luca	On the Euler function of linearly recurrent sequences
1:55–2:15	John Charles Saunders	Products of Tribonacci Numbers that are Products of Factorials
2:20–2:50	Problem Session (in Shanahan B460)	
2:50–3:10	Coffee	
3:10–3:30	Harry Altman	Zeckendorf trees and binary trees
3:35–3:55	Russell Jay Hendel	Recursions Satisfied by Families of Determinants with Applications to Resistance Distance
4:00–4:20	Hiroki Minamide	On Narayana-type polynomials obtained from oriented triangular ladder graphs
4:25–4:45	Kouichi Nakagawa	Pisot Numbers and The Feasibility of a Further Generalization of Existing Generalized Continued Fraction Representation

Friday, July 12 (In Person)

There are three parallel sessions being held this day. Below is the schedule of the in-person session.

8:30–9:10	Arnold Adelberg	<i>p</i> -adic Analysis of Stirling Numbers and Some Mathematical Tributes
9:15–9:35	Colin Paul Spears	Wythoff and Zeckendorf Forms of Fibonacci Phyllotaxis: Extension to Planar Spiral Golden Angle Sorting of Age, Generation, Newborn, Cousinship OEIS Sequences and Cotula Structure
9:40–10:00	Pranabesh Das	Beal's conjecture and Fermat type equation of signature $3 - 3 - N$
10:05–10:25	Williams 2024 SMALL REU	Properties of Generalizations of the Fibonacci Recurrence
10:25–10:45	Coffee Break	
10:45–11:05	Clark Kimberling	Unusual Fibonacci Identities
11:10–11:30	Shanta Laishram	Terms of Lucas sequences which are products of Catalan numbers and related results
11:35–11:55	Bruce Boman	How does multicellular life happen? Modeling Fibonacci patterns in biological tissues unveils underlying mechanisms
12:00	Closing Remarks	

Friday, July 12 (Virtual)

Below is the schedule of the first parallel Zoom session

9:15–9:35	Michael A. Allen	Identities relating permanents of some classes of $(0, 1)$ Toeplitz matrices to generalized Fibonacci numbers
9:40–10:00	El Habibi Abdelaziz	Perrin numbers which are sum, difference or product of two Fibonacci numbers
10:05–10:25	Sungskon Chang	Benford's Law under Zeckendorf expansions
10:25–10:45	Coffee Break	
10:45–11:05	Anshika Srivastava	Fractional Chromatic Numbers and Chromatic Numbers for the Fibonacci Distance Graphs
11:10–11:30	Akash Narayanan and Chris Yao	The Reversed Zeckendorf Game
11:35–11:55	Augustine Munagi	Primary Classes of n -Color Compositions
12:00	Closing Remarks (in Recital Hall)	

Below is the schedule of the second parallel Zoom session

9:15–9:35	Lamija Šćeta	Relations between Chebyshev, Fibonacci and Lucas polynomials via trigonometric sums
9:40–10:00	Zenan Šabanac	Some cosecant sums obtained via Fibonacci and Lucas polynomials
10:05–10:25	Moustafa Ibrahim	Uncovering New Horizons in Fibonacci Sequences: Generalizations, Differential Operators, Trajectories, and Orbits
10:25–10:45	Coffee Break	
10:45–11:05	Hannah Blasiyus	Fuzzy Fibonacci Arrays and its application in perfect transmission of light by symmetrical Fibonacci dielectric multilayers
11:10–11:30	Cancelled	
11:35–11:55	Piotr Miska	Prouhet-Thue-Morse meets Fibonacci and beyond
12:00	Closing Remarks (in Recital Hall)	

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