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Nawapan (Ploy) Wattanawanichkul

EDUCATION

2021–present	University of Illinois Urbana–Champaign M.S. and Ph.D. in mathematics graduate program, Expected 2026 Advisor: Jesse Thorner Overall GPA: 4.00/4.00	IL, USA
2017–2021	Bowdoin College B.A., Mathematics major, Japanese minor, Completed with honors in mathematics Advisor: Naomi Tanabe Overall GPA: 3.93/4.00, Magna Cum Laude Semester abroad (Spring 2020) Budapest Semesters in Mathematics (BSM), Completed with honors	ME, USA Budapest, Hungary

RESEARCH INTEREST

Analytic number theory, Theory of L -functions, Automorphic forms

PUBLICATIONS/PREPRINTS

1. *A metric approach to zero-free regions for L -functions.*
arXiv preprint, arXiv:2504.05606. (Submitted 2025)
2. *Effective correlation and decorrelation for newforms, and weak subconvexity for L -functions.*
arXiv preprint, arXiv:2405.05249. (With an appendix by Jesse Thorner, submitted 2024)
3. *Walking to infinity along some number theory sequences.* *Integers*, 24 (2024), 29 pp.
(With Steven J. Miller, Fei Peng, Tudor Popescu, and the Polymath REU program)
4. *An Alternative approach to computing $\beta(2k+1)$.* *Integers*, 23 (2023), 13 pp.
(With Naomi Tanabe)
5. *Modeling random walks to infinity on primes in $\mathbb{Z}[\sqrt{2}]$.* *J. Integer Seq.* 25 (2022), 21 pp.
(With Bencheng Li, Steven J. Miller, Tudor Popescu, and Daniel Sarnecki)
6. *Walking to infinity on the Fibonacci sequence.* *Fibonacci Quart.* 60 (2022), no. 5, pp. 293–299.
(With Bencheng Li, Steven J. Miller, Tudor Popescu, and Daniel Sarnecki)

TALKS/PRESENTATIONS ([†] = upcoming talks)

Invited Talks

Jan 2026	Joint Mathematics Meetings 2026: [†] AMS Special Session on <i>Recent Trends in Analytic Number Theory</i>	Washington, DC
Jan 2025	Joint Mathematics Meetings 2025: AMS Special Session on <i>Current Directions in Modular Forms</i>	Seattle, WA
Sep 2024	Kansas State University Student Number Theory Seminar	Remote
Jun 2024	Shandong University Number Theory Seminar	Remote
Apr 2024	Stanford University Student Number Theory Seminar	Remote

Contributed Talks

Jun 2025	Annual Pure and Applied Mathematics Conference (APAM)	Bangkok, Thailand
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Jun 2025	Conference in Number Theory and Applications	Bangkok, Thailand
Apr 2025	AFW, Automorphic Forms Workshop	Denton, TX
Apr 2025	UIUC Graduate Number Theory Seminar	Urbana, IL
Oct 2024	UIUC Graduate Number Theory Seminar	Urbana, IL
Mar 2024	UIUC Number Theory Seminar, Department of Mathematics, UIUC	Urbana, IL
Mar 2024	UIUC Graduate Number Theory Seminar	Urbana, IL
Nov 2023	UIUC Graduate Number Theory Seminar	Urbana, IL
Jul 2022	The 20 th International Conference on Fibonacci Numbers and Their Applications, University of Sarajevo, Bosnia and Herzegovina.	Remote
May 2021	Honors Thesis, Department of Mathematics, Bowdoin College	Remote
Sep 2020	The Palmetto Joint Arithmetic, Modularity, and Analysis Series	Remote
Oct 2019	President's Summer Research Symposium, Bowdoin College	Brunswick, ME

WORKSHOPS & CONFERENCES ATTENDED ([†] = upcoming workshops/conferences)

Jan 2026	Joint Mathematics Meetings 2026 [†]	Washington, DC
Jun 2025	Annual Pure and Applied Mathematics Conference (APAM)	Bangkok, Thailand
Jun 2025	Conference in Number Theory and Applications	Bangkok, Thailand
Apr 2025	Automorphic Forms Workshop (AFW)	Denton, TX
Mar 2025	Midwest Arithmetic Geometry and Number Theory (MAGNTS)	Columbus, OH
Jan 2025	Joint Mathematics Meeting 2025	Seattle, WA
May 2024	Shanks Conference, International Conference on L -Functions and Automorphic Forms	Nashville, TN
Oct 2023	Midwest Arithmetic Geometry and Number Theory (MAGNTS)	Ann Arbor, MI
Jan 2023	Spring Opportunities, IAS	Princeton, NJ
Jun 2022	The Connecticut Summer School in Number Theory (CTNT)	Storrs, CT
Jul 2019	Park City Mathematics Institute (PCMI)	Park City, UT

TEACHING EXPERIENCE

2021–2025	Teaching Assistant	Urbana, IL
	<i>Department of Mathematics, University of Illinois Urbana-Champaign</i>	
	Summer 2024	MATH 257 Linear Algebra (NetMath)
	Spring 2024	MATH 220 Differential Calculus (Head TA)*
	Fall 2023	MATH 221 Differential Calculus*
	Spring 2023	MATH 220 Differential Calculus (Head TA)*
	Fall 2022	MATH 220 Differential Calculus*
	Spring 2022	MATH 220 Differential Calculus*
	Fall 2021	MATH 231 Integral Calculus
	* = Ranked as an excellent teacher by students.	
	Grader	
	Summer 2023	MATH 347 Fundamental Mathematics
	Research Assistant	
	Summer 2025	Worked under the supervision of Professor Thorner, funded by a grant he secured from the Simons Foundation.
	Spring 2025	
	Fall 2024	
2018 - 2019	Quantitative Reasoning Tutor , Bowdoin College	Brunswick, ME
	Tutored during Students' of Color study nights; helped with courses such as	

2018 - 2019	mathematical reasoning, linear algebra, and calculus.	
	Mathematics Grader , Bowdoin College	Brunswick, ME
	Fall 2019	MATH 2303 Functions of Complex Variables
	Fall 2019	MATH 2602 Introduction to Group Theory
	Spring 2019	MATH 2020 Mathematical Reasoning
	Fall 2018	MATH 2020 Mathematical Reasoning

MENTORSHIP & OUTREACH

Fall 2024	Math Circle Instructor , University of Illinois Urbana-Champaign	Urbana, IL
	Offered a free weekly extracurricular math program for middle and high school students, fostering enthusiasm and supporting younger learners in the Champaign-Urbana area.	
Summer 2022, 2017, & 2016	Mathematical Outreach Speaker , Benchama Maharat Highschool	Thailand
	Delivered lectures to over 200 middle and high school students, preparing them for national math competitions, expanding access to advanced mathematical preparation.	
Summer 2020	Research mentor for the Polymath Jr. REU	Remote
	Guided undergraduate students through research projects and organized weekly activities under the supervision of Steven Miller (Williams College), fostering early research skills.	
Summer 2018	Academic Program Assistant , Brewster Academy	Wolfeboro, NH
Winter 2018 & 2019	Academic Program Assistant , SIT Graduate institution	Brattleboro, VA
	Provided mentorship for Thai Government scholarship recipients transitioning to U.S. higher education. This involved roles, aiding acclimation and skill-building via SAT prep and activities, and guiding students through the U.S. college application process.	
Summer 2017	Community Teaching Volunteer , The Mirror Foundation	Chiangrai, Thailand
	Volunteered as a teacher for students from underrepresented ethnic groups, planning activities and providing short courses in various subjects.	

AWARDS

2025	The Paul T. Bateman Fellowship , UIUC	Urbana, IL
	Awarded to a student actively working on research and writing thesis in number theory.	
2021	Edward S. Hammond Mathematics Prize , Bowdoin College	Brunswick, ME
	Awarded to a senior who is completing mathematics major with distinction.	
2021	Phi Beta Kappa , Alpha of Maine Chapter	ME
2019 – 2021	Smyth Mathematics Prize , Bowdoin College	Brunswick, ME
	Awarded to a student with highest mathematics grades during the first two years.	
2019	Kibbe Science Fellowship , Bowdoin College	Brunswick, ME
	Fellowship for summer research in STEM in summer 2019.	
2017 – 2019	Sarah and James Bowdoin Scholar , Bowdoin College	Brunswick, ME
	Given to the top 20 percent of students, as calculated by grade point average.	
2016 – present	King's Scholarship , Royal Thai Government	Thailand
	A full-ride scholarship for overseas undergraduate studies.	

PROFESSIONAL SERVICES

Referee : International Mathematics Research Notices, Revue Roumaine des Sciences Techniques.