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Nawapan (Ploy) Wattanawanichkul

EDUCATION

2021–present	**University of Illinois Urbana–Champaign**	IL, USA

M.S. and Ph.D. in mathematics graduate program
Advisor: Jesse Thorner
Overall GPA: 4.00/4.00

2017–2021	**Bowdoin College**	ME, USA

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, Hungary

Budapest Semesters in Mathematics (BSM), Completed with honors

RESEARCH INTEREST

Analytic number theory, 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)

PRESENTATIONS

Research Talks († = upcoming talks)

Jun 2025	Annual Pure and Applied Mathematics (APAM) Conference†	Bangkok, Thailand
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
Jan 2025	JMM: AMS Special Session on current directions in modular forms	Seattle, WA
Oct 2024	UIUC Number Theory Seminar, Department of Mathematics, UIUC	Urbana, IL
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

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 20th 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

Poster Presentations

| Oct 2019 | President's Summer Research Symposium, Bowdoin College | Brunswick, ME |

AWARDS

2021	**Edward S. Hammond Mathematics Prize**, Bowdoin College Awarded to a senior who is completing mathematics major with distinction.	Brunswick, ME
2021	**Phi Beta Kappha**, Alpha of Maine Chapter	ME
2019 – 2021	**Smyth Mathematics Prize**, Bowdoin College Awarded to a student with highest mathematics grades during the first two years.	Brunswick, ME
2019	**Kibbe Science Fellowship**, Bowdoin College Fellowship for summer research in STEM in summer 2019.	Brunswick, ME
2017 – 2019	**Sarah and James Bowdoin Scholar**, Bowdoin College Given to the top 20 percent of students, as calculated by grade point average.	Brunswick, ME
2016 – present	**King's Scholarship**, Royal Thai Government A full-ride scholarship for overseas undergraduate studies.	Thailand

TEACHING EXPERIENCE

| 2024 | **Math Circle**, University of Illinois Urbana-Champaign
 Offering a free weekly extracurricular math program for late middle school and high school students in the Champaign-Urbana area. | Urbana, IL |
| 2021–2025 | **Teaching Assistant**
 Department of Mathematics, University of Illinois Urbana-Champaign | Urbana, IL |

	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

| | Spring 2025 | Worked under the supervision of Professor Thorner, funded |
| | Fall 2024 | by a grant he secured from the Simons Foundation. |

| Summer 2022 & 2016–2017 | **Invited Speaker**, Benchama Maharat Highschool
 Prepare over 200 students for Ordinary National Educational Test (ONET) and POSN competition, a regional round leading towards the International Mathematical Olympiad. | Ubon Ratchatani, Thailand |
| Summer 2020 | **Research mentor for Polymath REU**
 Guided students throughout projects, and organized weekly activities. | Remote |

Supervisor: Steven Miller, Williams College

| 2018 - 2019 | **Quantitative Reasoning Tutor**, Bowdoin College | Brunswick, ME |

Tutored during Students' of Color study nights; helped with courses such as
mathematical reasoning, linear algebra, and calculus.

| 2018 - 2019 | **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

| 2018 - 2019 | **College Application Reader**, SIT Graduate institution | Brattleboro, VA |

Worked with the program funded by the Thai Government, facilitated Thai
students through American college application system, proofread applications.

| Summer 2018 | **Undergraduate Teaching Assistant**, Brewster Academy | Wolfeboro, NH |

Worked for a summer program funded by the Thai Government;
prepared handouts and facilitated SAT class; organized activities for students.

| Summer 2017 | **"Kroo Bannok" Teaching Program**, The Mirror Foundation | Chiangrai, Thailand |

Taught students of underrepresented ethnic groups; planned activities and gave
short courses on Thai and English languages, mathematics, sciences, and arts.

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

Jun 2025	Annual Pure and Applied Mathematics (APAM) Conference†	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