

TAYLOR DANIELS

PERSONAL

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EDUCATION

Ph.D., Mathematics, Purdue University, West Lafayette IN, 2024.

Advisors: Trevor Wooley and David (Ben) McReynolds

M.S., Mathematics, Univ. of Louisville, Louisville KY, 2015.

B.S., Mathematics, Univ. of Louisville, Louisville KY, 2014.

SKILLS AND LANGUAGES

Programming language proficiencies

- **LaTeX**: Very strong; ubiquitous use throughout academic career.
- **Wolfram/Mathematica**: Very strong; near-daily use for past 2-3 years for research purposes.
- **Python**: Moderate; previous lengthy use for large computations, with many programs written in the SAGE superset of Python.
- Prior experience with **MATLAB** during undergraduate research work (cryptography).

Languages:

- **English** — native;
- **Mandarin Chinese** — lengthy past experience, including teaching;
- **Spanish** — lengthy past experience.

PUBLICATIONS

T. Daniels, T. Huber, J. McLaughlin, and D. Ye, *The p -dissection of a product of quintuple products*, submitted; arXiv:2603.04666; 24 pp.

T. Daniels, *Vanishings of the Legendre-17 signed partition numbers*, submitted; arXiv:2603.02373; 49 pp.

T. Daniels, *Biasymptotics of the Möbius- and Liouville-signed partition numbers*, submitted; arXiv:2310.10617; 38 pp.

T. Daniels, *Vanishing coefficients in two q -series related to Legendre-signed partitions*, Res. Number Theory **10** (2024), Paper No. 81, 12 pp.. doi:10.1007/s40993-024-00566-x

T. Daniels, *The Asymptotics of Some Signed Partition Numbers*, Doctoral Thesis, August 2024. doi:10.25394/PGS.26364385.v1

T. Daniels, *Legendre-signed partition numbers*, J. Math. Anal. Appl. **542** (2025), no. 1., Paper No. 128717, 40 pp.. doi:10.1016/j.jmaa.2024.128717

T. Daniels, *Bounds on the Möbius-signed partition numbers*, Ramanujan J. **65** (2024), 81-123. doi:10.1007/s11139-024-00885-8

T. Daniels and D. Smith-Tone, *Differential Properties of the HFE Cryptosystem*, Post-Quantum cryptography, 2014, 59–75

EMPLOYMENT

Aug. 2024 –	Visiting Assistant Professor , Purdue Univ. Mathematics
2015 – 2024	Graduate Teaching/Research Assistant , Purdue Univ. Mathematics In Fall 2023 and Summer 2024 I was supported in part as a Research Assistant by funding provided by Trevor Wooley and Ben McReynolds, respectively.
2015	Instructor , STARTALK Summer Program, Louisville KY An accelerated summer course in Mandarin Chinese, for students grade 6-8.
2012 – 2015	Teaching Assistant , Univ. of Louisville Mathematics

AWARDS

2021 – 2022	Miscellaneous Scholarship, Purdue Univ. Mathematics
Fall 2020	Excellence in Teaching Award, Purdue Univ. Mathematics
2009 – 2014	Trustee’s Scholarship, Univ. of Louisville
2013 – 2014	Bickel Scholarship, Univ. of Louisville Mathematics
2012 – 2013	Pedigo Scholarship, Univ. of Louisville Mathematics
2009 – 2012	Humana Scholarship, Humana Inc., Louisville KY

ORGANIZATIONS

2014 – 2015	Vice President, Math Club, Univ. of Louisville
2012 – 2014	Math Club, Univ. of Louisville
2009 – 2012	Chinese Learner’s Society, Univ. of Louisville
2010 – 2011	President, Chinese Learner’s Society, Univ. of Louisville

TALKS

INTEGERS 2025, Athens GA; May 2025; “Legendre-signed partition numbers and their vanishings”

UC Davis Number Theory Seminar, Davis CA; May 2025; “Legendre-signed partition numbers and their vanishings”

MTU seminar on q -series and partitions, Houghton MI; Mar. 2025; “Legendre-signed partition numbers and their vanishings”

AMS Special Session on q -Series and Partitions (JMM 2025), Seattle WA; Jan. 2025; “Legendre-signed partition numbers and their vanishings”

Purdue Analytic Number Theory and Harmonic Analysis Seminar, W. Lafayette IN; Apr. 2024; “The asymptotics of some signed partition numbers”

UT Tyler Number Theory and Combinatorics Seminar, Tyler TX; Mar. 2024; “Signed partition numbers”

Southern Regional Number Theory Conference 2024, Baton Rouge LA; Mar. 2024; “Legendre-signed partition numbers”

UIUC Number Theory Seminar, Urbana IL; Nov. 2022; “The asymptotics of some signed partition numbers”

Geometry, Arithmetic, and Groups, in honor of Alan Reid’s 60th birthday, Austin TX; June 2022; “Möbius-signed partition numbers”

Post-Quantum Cryptography – 6th Intl. Workshop, PQCrypto 2014, Waterloo ON, Canada; Sept. 2014; “Differential Properties of the HFE Cryptosystem”