

# Lin JIU

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## EMPLOYMENT

2023.08–Present	<b>Assistant Professor of Mathematics</b>	Zu Chongzhi Center, Duke Kunshan University(DKU)
2024.07–Present	Adjunct of the Faculty of Graduate Studies	Dept. of Math. & Stats., Dalhousie University
2023.08–2025.12	Assistant Professor of the Practice	DKU Studies Unit, Duke Univ.
2020.08–2023.07	Lecturer in Mathematics	Zu Chongzhi Center, DKU
	Assistant Professor of the Practice	Dept. of Global Studies, Trinity Coll., Duke Univ.
2019.09–2020.07	Research Associate	Dept. of Math. & Stats., Dalhousie Univ.
2017.09–2019.08	Killam Postdoc Fellow	Dept. of Math. & Stats., Dalhousie Univ.
2017.03–2017.08	Research Scientist	RICAM, Austrian Acad. Sci.
2016.06–2017.02	Postdoc Fellow	RISC, Johannes Kepler Univ.

## RESEARCH INTERESTS

Symbolic Computation, Number Theory, Combinatorics, Special Functions, Information Geometry

## EDUCATION

2011.08–2016.05	Tulane University, Ph.D. in Mathematics	<i>Advisor:</i> <u>Victor H. Moll</u>
2013.09–2014.02	RISC, Johannes Kepler University, Exchange Ph.D. Student	<i>Advisor:</i> <u>Carsten Schneider</u>
2008.09–2010.07	Beijing Institute of Technology, Master of Science	<i>Advisor:</i> <u>Huafei Sun</u>
2004.09–2008.06	Beijing Institute of Technology, Bachelor of Science	<i>Thesis Advisor:</i> <u>Huafei Sun</u>

## GRANT AWARDED

2023.07–2025.06	<b>WHU-DKU Joint Grant Seed</b>	Wuhan and Duke Kunshan University	DKU <b>PI</b>	50K RMB
	“WHU-DKU-Dal Research Platform on Combinatorics and Number Theory”			
2023.01–2024.12	<b>Faculty Learning Community</b>	Center for Teaching and Learning (CTL), DKU	Participant	10K RMB
	11 Faculty members across disciplines   discussions on all possible teaching aspects			
2022.07–2024.06	<b>WHU-DKU Joint Grant Seed</b>	Wuhan and Duke Kunshan University	Member	50K RMB
	“WHU-DKU-UMN Joint Research Center on Applied Harmonic Analysis”			
2022.01–2022.12	<b>Gradescope Research Project Grant</b>	Gradescope	<b>PI</b>	2K USD
	Using Gradescope in Math Courses, facilitated by CTL, DKU			
2021.07–2023.06	<b>DKU Interdisciplinary Seed Grant</b>	DKU	<b>Co-PI</b>	60K RMB
	“Quantum Algorithms for Computational Number Theory, Linear Algebra, and Combinatorics”			
2017.09–2019.08	<b>Killam Research Fund</b>	Killam Trust @ Dalhousie University	<b>PI</b>	3K CAD
	Research Support for Killam Postdocs			

## PUBLICATIONS

(While working on the projects, undergraduate students' names are marked with underlines)

### BOOK

1. H. Sun, L. Peng, Y. Cheng, D. Li, and **L. Jiu**, *Mathematical Foundations of Information Geometry*, Science Press, Beijing, 2025. ISBN: 978-7-03-080107-4.

### PAPERS

39. **L. Jiu** and D. Wang, On  $b$ -ary binomial coefficients with negative entries, Submitted for Publication.
38. S. Chern, **L. Jiu**, S. Li, and L. Wang, Leading coefficient in the Hankel determinants related to binomial and  $q$ -binomial transforms, *Adv. Appl. Math.* **176** (2026), Article 103051.

37. **L. Jiu** and L. Peng, Information geometry and alpha-parallel prior of the beta-logistic distribution, *Comm. Statist. Theory Methods*. **54** (2025), 3292–3306.
36. S. Chern, **L. Jiu**, and I. Simonelli, A central limit theorem for a card shuffling problem, *J. Combin. Theory Ser. A* **214** (2025), Article 106048.
35. **L. Jiu** and Y. Li, Hankel determinants of certain sequences of Bernoulli polynomials: A direct proof of an inverse matrix entry from Statistics, *Contrib. Discrete Math.* **19** (2024), 64–84.
34. Q. Chen, S. Chern, and **L. Jiu**, Multi-headed lattices and Green functions, *J. Phys. A: Math. Theor.* **57** (2024) Article 465204.
33. S. Chern and **L. Jiu**, Hankel determinants and Jacobi continued fractions for  $q$ -Euler numbers, *C. R. Math. Acad. Sci. Paris* **362** (2024), 203–216.
32. K. Dilcher and **L. Jiu**, Hankel determinants of shifted sequences of Bernoulli and Euler numbers, *Contrib. Discrete Math.* **18** (2023), 146–175.
31. Z. Bradshaw, I. Gonzalez, **L. Jiu**, V. H. Moll, and C. Vignat, Compatibility of the method of brackets with classical integration rules, *Open Math.* **21** (2023), Article number: 20220581.
30. **L. Jiu** and D. Y. H. Shi, Moments and cumulants on identities for Bernoulli and Euler numbers, *Math. Reports* **24** (2022), 643–650.
29. **L. Jiu**, I. Simonelli, and H. Yue, Loop Decompositions of Random Walks and Nontrivial Identities of Bernoulli and Euler Polynomials, *Integers* **22** (2022), A91.
28. K. Dilcher and **L. Jiu**, Hankel Determinants of sequences related to Bernoulli and Euler Polynomials, *Int. J. Number Theory* **18** (2022), 331–359.
27. K. Dilcher and **L. Jiu**, Orthogonal polynomials and Hankel determinants for certain Bernoulli and Euler polynomials, *J. Math. Anal. Appl.* **497** (2021), Article 124855.
26. I. Gonzales, **L. Jiu**, and V. H. Moll, An extension of the method of brackets. Part 2, *Open Math.* **18** (2020), 983–955.
25. **L. Jiu** and C. Koutschan, Calculation and properties of zonal polynomials, *Math. Comput. Sci.* **14** (2020), 623–640.
24. N. Takayama, **L. Jiu**, S. Kuriki, and Y. Zhang, Computations of the Expected Euler Characteristic for the Largest Eigenvalue of a Real Wishart Matrix, *J. Multivariate Anal.* **179** (2020), Article 104642.
23. **L. Jiu**, C. Vignat, and T. Wakhare, Analytic Continuation for Multiple Zeta Values using Symbolic Representations, *Int. J. Number Theory* **16** (2020), 579–602.
22. **L. Jiu** and C. Vignat, Connection coefficients for higher-order Bernoulli and Euler polynomials: a random walk approach, *Fibonacci Quart.* **57** (2019), 84–95.
21. **L. Jiu** and D. Y. H. Shi, Matrix representation for multiplicative nested sums, *Colloq. Math.* **158** (2019), 183–194.
20. **L. Jiu** and D. Y. H. Shi, Orthogonal polynomials and connection to generalized Motzkin numbers for higher-order Euler polynomials, *J. Number Theory* **199** (2019), 389–402.
19. I. Gonzalez, K. Kohl, **L. Jiu**, and V. H. Moll, The method of brackets in experimental mathematics, *Frontiers of Orthogonal Polynomials and  $q$ -Series*, Z. Nashed and X. Li eds., World Scientific Publishers, 2018.
18. **L. Jiu**, V. H. Moll, and C. Vignat, A symbolic approach to multiple zeta values at the negative integers, *J. Symbolic Comput.* **84** (2018), 1–13.
17. I. Gonzales, K. Kohl, **L. Jiu**, and V. H. Moll, An extension of the method of brackets. Part 1, *Open Math.* **15** (2017), 1181–1211.
16. **L. Jiu**, Integral representations of equally positive integer-indexed harmonic sums at infinity, *Research in Number Theory* **3** (2017), Article 3:10.
15. C. Li, E. Zhang, **L. Jiu**, and H. Sun, Optimal control on special Euclidean group via natural gradient descent algorithm, *Sci. China Inf. Sci.* **59** (2016), Article: 112203.
14. I. Gonzalez, **L. Jiu**, and V. H. Moll, Pochhammer symbol with negative indices. A new rule for the method of brackets, *Open Math.* **14** (2016), 681–686.
13. T. Amdeberhan, A. Dixit, X. Guan, **L. Jiu**, A. Kuznetsov, V. H. Moll, and C. Vignat, The integrals in Gradshteyn and Ryzhik. Part 30: trigonometric functions, *Scientia Series A: Mathematical Sciences* **27** (2016), 47–74.
12. T. Amdeberhan, A. Dixit, X. Guan, **L. Jiu**, V. H. Moll, and C. Vignat, A series involving Catalan numbers. Proofs and demonstrations, *Elem. Math.* **71** (2016), 109–121.
11. **L. Jiu** and C. Vignat, On binomial identities in arbitrary bases, *J. Integer Seq.* **19** (2016), Article 16.5.5.
10. **L. Jiu**, V. H. Moll, and C. Vignat, A symbolic approach to some identities for Bernoulli-Barnes polynomials, *Int. J. Number Theory* **12** (2016), 649–662.
9. A. Dixit, **L. Jiu**, V. H. Moll, and C. Vignat, The finite Fourier transform of classical polynomials, *J. Aust. Math. Soc.* **98** (2015), 145–160.
8. T. Amdeberhan, A. Dixit, X. Guan, **L. Jiu** and V. H. Moll, The unimodality of a polynomial coming from a rational integral. Back to the original proof, *J. Math. Anal. Appl.* **420** (2014), 1154–1166.

7. A. Byrnes, **L. Jiu**, V. H. Moll, and C. Vignat, Recursion rules for the hypergeometric zeta functions, *Int. J. Number Theory* **10** (2014), 1761–1782.
6. **L. Jiu**, V. H. Moll, and C. Vignat, Identities for generalized Euler polynomials, *Integral Transforms Spec. Funct.* **25** (2014), 777–789.
5. Z. Zhang, H. Sun, **L. Jiu**, and L. Peng, A natural gradient algorithm for stochastic distribution systems, *Entropy* **16** (2014), 4338–4352.
4. F. Zhang, H. Sun, **L. Jiu**, and L. Peng, The arc length variational formula on the exponential manifold, *Math. Slovaca* **63** (2013), 1101–1112.
3. L. Peng, H. Sun, and **L. Jiu**, The geometric structure of the Pareto distribution, *Bol. Asoc. Mat. Venez.* **14** (2007), 5–13.
2. **L. Jiu** and H. Sun, On minimal homothetical hypersurfaces, *Colloq. Math.* **109** (2007), 239–249.
1. X. Wang and **L. Jiu**, Characterizing hypersurfaces of generalized rotation through its normal lines, *Journal of Ningde Normal University (Natural Science)* **02** (2006), 117–119.

## ACADEMIC TALKS

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### 2026 Hankel Determinants of Sequences Related to Bernoulli Polynomials, Euler Polynomials, and $q$ -Series

Feb. 11 Invited Seminar Talk, Department of Mathematics and Statistics, Dalhousie University, Halifax, NS, Canada.

### 2025 Hankel Determinants and Big $q$ -Jacobi Polynomials for $q$ -Euler Numbers

Aug. 1 The Third Joint SIAM/CAIMS Annual Meetings (AN25), Montréal, QC, Canada, July 28–Aug. 1.

#### Examples of Computer Proofs: From Elementary to Recent Ones

Jan. 15 Invited Honours Seminar Talk, Department of Mathematics and Statistics, Dalhousie University, Halifax, NS, Canada.

### 2024 Multi-headed Lattices and Green Functions

Oct. 8 Invited Seminar Talk, Department of Mathematics and Statistics, Dalhousie University, Halifax, NS, Canada.

#### $q$ -Analogue on Hankel Determinants: the $q$ -Euler Numbers and the $q$ -Binomial Transform

June 13 Canadian Number Theory Association XVI, Fields Institute, Toronto, ON, Canada, June 10–14.

#### Shuffle to One, Shuffle to Normal

Jan. 31 Number Theory Seminar, Department of Mathematics and Statistics, Dalhousie University, Halifax, NS, Canada.

### 2023 Hankel Determinants on Bernoulli polynomials and $q$ -analogues

Sept. 1 Discrete Math Seminar, Zu Chongzhi Center, Duke Kunshan University, Kunshan, Suzhou, Jiangsu Province, P. R. China.

#### Random Walk Models for Identities Involving Bernoulli and Euler Polynomials

Mar. 6 Number Theory Seminar, Department of Mathematics and Statistics, Dalhousie University, Halifax, NS, Canada.

### 2022 Random Walk Model on Finite Number of Sites

Oct. 19 Invited Seminar Talk, School of Mathematics, Anhui University, Online.

#### Bernoulli Symbol and Multiple Zeta Function at Non-negative Integers

Aug. 8 The First International Conference on Multiple Zeta Values and Related Topics, Online, Aug. 08–09.

#### Hankel Determinants of Certain Sequences of Bernoulli and Euler Polynomials

June 12 Invited Seminar Talk, Department of Mathematics, Zhejiang Sci-Tech University, Online.

#### Introduction on Continued Fractions, II

Mar. 25 Discrete Math Seminar, Zu Chongzhi Center, Duke Kunshan University, Kunshan, Suzhou, Jiangsu Province, P. R. China.

#### Introduction on Continued Fractions, I

Mar. 11 Discrete Math Seminar, Zu Chongzhi Center, Duke Kunshan University, Kunshan, Suzhou, Jiangsu Province, P. R. China.

#### Bernoulli and Euler Symbols: Umbral Calculus, Random Variables, and Multiple Zeta Values

Jan. 5 Duke Kunshan University-Shanghai Jiao Tong University Joint Workshop for Mathematics and Data Science, Shanghai, P. R. China.

### 2021 Random Walk Models for Non-trivial Identities Involving Bernoulli and Euler Polynomials of Higher-orders

Sept. 25 Suzhou Area Youth Mathematicians 2nd Annual Workshop, Soochow University, Kunshan, Suzhou, Jiangsu Province, P. R. China, Sept. 25–26.

#### Random Walks and Identities Involving Bernoulli and Euler Polynomials of Higher-order

June 18 Invited Seminar Talk, Institute of Statistics and Big Data, Renmin University of China, Beijing, P. R. China.

#### Examples on Computer Proofs

May 28 Invited Seminar Talk, Wuhan University, Wuhan, Hubei Province, P. R. China.

#### Hankel Determinant of Sequences Related to Bernoulli and Euler Polynomials

May 27 DKU-WHU Math and Stat Academic Conference, Wuhan University, Wuhan, Hubei Province, P. R. China.

### 2020 Hankel Determinant on Sequences Related to Bernoulli and Euler Polynomials

Nov. 14 Suzhou Area Youth Mathematicians 1st Annual Workshop, Duke Kunshan University, Kunshan, Suzhou, Jiangsu Province, P. R. China.

#### Three Examples on Computer Proofs

Nov. 6 Zu Chongzhi Colloquium Series, Duke Kunshan University, Kunshan, Suzhou, P. R. China.

## 2019 Introduction to Four Symbolic Integration Methods: Two Examples

Sept. 23 *Number Theory Seminar, Department of Mathematics and Statistics, Dalhousie University, Halifax, NS, Canada.*

### On $b$ -ary Binomial Coefficients

Sept. 16 *Number Theory Seminar, Department of Mathematics and Statistics, Dalhousie University, Halifax, NS, Canada.*

### Orthogonal Polynomials for Higher-order Euler Polynomials

July 23 *15th International Symposium on Orthogonal Polynomials, Special Functions and Applications, Hagenberg im Mühlkreis, Austria, July 22–26.*

### On Harmonic Sums: Integral and Matrix Representations with Connections to Partition-theoretic Generalization of the Riemann Zeta-function and Random Walks

June 9 *Analytic and Combinatorial Number Theory: The Legacy of Ramanujan (A conference in honor of Bruce C. Berndt's 80th birthday), University of Illinois at Urbana-Champaign, Urbana, IL, U. S. A., June 6–9.*

### Random Walk Approaches to Identities on Higher-order Bernoulli and Euler Polynomials

Mar. 17 *American Mathematical Society Spring Southeastern Sectional Meeting, Auburn University, Auburn, AL, U. S. A., Mar. 15–17.*

### Random Walk & Identities

Feb. 25 *Number Theory Seminar, Department of Mathematics and Statistics, Dalhousie University, Halifax, NS, Canada.*

### Matrix Representation for Multiplicative Nested Sums

Jan. 17 *2019 Joint Mathematics Meetings, Baltimore, MD, U. S. A., Jan. 16–19.*

### Orthogonal Polynomials for Bernoulli and Euler Polynomials

Jan. 7 *Number Theory Seminar, Department of Mathematics and Statistics, Dalhousie University, Halifax, NS, Canada.*

## 2018 Three Examples of Computer Proofs of Combinatorial Results

Oct. 17 *Honours Seminar, Department of Mathematics and Statistics, Dalhousie University, Halifax, NS, Canada.*

### Matrix Representation for Multiplicative Nested Sums

Sept. 21 *Number Theory Seminar, Department of Mathematics and Statistics, Dalhousie University, Halifax, NS, Canada.*

### Bernoulli Symbol and Sum of Powers

July 25 *6th International Congress on Mathematical Software, University of Notre Dame, Notre Dame, IN, U. S. A., July 24–27.*

### Random Walks and Identities for High-order Bernoulli and Euler Polynomials

July 3 *18th International Conference on Fibonacci Numbers and Their Applications, Dalhousie University, Halifax, NS, Canada, July 1–8.*

### Matrix Representations for Bernoulli and Euler Polynomials

June 3 *2018 Canadian Mathematical Society Summer Meeting, University of New Brunswick, Fredericton, NB, Canada, June 1–4.*

### Two Sequences Related to Bernoulli and Euler Numbers

May 30 *Number Theory Seminar, Department of Mathematics and Statistics, Dalhousie University, Halifax, NS, Canada.*

### Hidden Walks

Feb. 26 *Number Theory Seminar, Department of Mathematics and Statistics, Dalhousie University, Halifax, NS, Canada.*

### Introduction to Zonal Polynomials

Jan. 22 *Number Theory Seminar, Department of Mathematics and Statistics, Dalhousie University, Halifax, NS, Canada.*

## 2017 The Probabilistic and Combinatorial Interpretations of the Bernoulli Symbol

Dec. 10 *2017 Canadian Mathematical Society Winter Meeting, University of Waterloo, Waterloo, ON, Canada, Dec. 8–11.*

### Bernoulli Symbol $\mathcal{B}$ : from Umbral Calculus to Random Variable and Combinatorics

Oct. 13 *Number Theory Seminar, Department of Mathematics and Statistics, Dalhousie University, Halifax, NS, Canada.*

### Visualization of Bernoulli Numbers

Oct. 12 *Colloquium, Department of Mathematics and Statistics, Dalhousie University, Halifax, NS, Canada.*

### Bernoulli Symbol on Multiple Zeta Values at Negative Integers

July 18 *23rd Conference on Applications of Computer Algebra (Commemorating the heritage of Jonathan Michael Borwein), Jerusalem College of Technology, Jerusalem, Israel, July 17–21.*

### On Bernoulli Symbol $\mathcal{B}$

May 5 *Klagenfurt-Linz-Wien Workshop, Riefnitz, Austria, May 3–6.*

## 2016 The Method of Brackets (MoB) and Integrating by Differentiating (IBD) Method

Dec. 9 *Laboratoire des Signaux et Systèmes, Université Paris Sud XI, Orsay, France.*

### “Random Walks” for Harmonic Sums

Nov. 29 *SFB Statusseminar, Strobl, Austria, Nov. 27–30.*

### A Hot Pot

Oct. 5 *Algorithmic Combinatorics Seminar, Research Institute for Symbolic Computations, Johannes Kepler University, Hagenberg im Mühlkreis, Austria.*

### On Binomial Identities in Arbitrary Bases

July 26 *Beijing Key Laboratory on Mathematical Characterization, Analysis and Applications of Complex Information, Beijing Institute of Technology, Beijing, P. R. China.*

### Random Walk: A Probabilistic and Geometric Approach to Number Theory

July 19 *International Conference on Mathematical Characterization, Analysis and Applications of Complex Information, Beijing Institute of Technology, Beijing, P. R. China, July 19–20.*

### The Method of Brackets

July 13 *5th International Congress on Mathematical Software, The Zuse Institute Berlin, Berlin, Germany, July 11–14.*

## The Method of Brackets

June 22 Algorithmic Combinatorics Seminar, Research Institute for Symbolic Computations, Johannes Kepler University, Hagenberg im Mühlkreis, Austria.

## Binomial Identities in Arbitrary Bases

Mar. 8 Graduate Students Colloquium, Department of Mathematics, Tulane University, New Orleans, LA., U. S. A.

## 2015 On Bernoulli Symbol $\mathcal{B}$ and Its Applications

July 8 Center for Combinatorics, Nankai University, Tianjin, P. R. China

## 2014 Recursion Rules for the Hypergeometric Zeta Functions

June 3 Midwest Number Theory Conference for Graduate Students and Recent PhDs, X, University of Illinois at Urbana-Champaign, Urbana, IL, U. S. A., June 3–4.

## Implementation of an Algorithm on Converting Sums into Nested Sums

Jan. 8 Laboratoire des Signaux et Systemes, Université Paris Sud XI, Orsay, France.

## HONORS AND AWARDS

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2016 Tea Doctor (for organizing Tea Time)	Dept. of Math., Tulane Univ.
2015 Tea Master (for organizing Tea Time)	Dept. of Math., Tulane Univ.
2014 Excellence in Mathematics	Dept. of Math., Tulane Univ.
2013 Excellent Graduate Student Teacher	Dept. of Math., Tulane Univ.
2008 Outstanding Graduates	Beijing Institute of Technology
2007 National Scholarship	Department of Education, P. R. China
2006 China Aerospace Science and Technology Corporation Scholarship (CASC), 2nd Prize	CASC, P. R. China

## TEACHING EXPERIENCE

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**TEACHING SUMMARY** 29 regular course sections (incl. 5 scheduled), 1 mini-term, and 6 independent study courses across **Duke Kunshan Univ. (DKU)**, **Dalhousie Univ. (Dal)**, and **Tulane Univ. (TU)**.

DKU	MATH101A—Introductory Calculus I	2026 Fall (scheduled)
	MATH101B—Introductory Calculus II	2027 Spring (scheduled)
	MATH105—Calculus	2020–2023 (5 sections)
	MATH201—Multivariable Calculus	2026 Fall (scheduled), 2020–2022 (3 sections)
	MATH202—Linear Algebra	2026 Fall (scheduled), 2023 Fall
	MATH205—Probability and Statistics	2023 Spring, 2021 Spring
	MATH301—Advanced Introduction to Probability	2021–2023 (4 sections)
	MATH306—Number Theory	2022 Fall, 2021 Fall
	MATH307—Complex Analysis	2027 Spring (scheduled), 2024 Fall
Dal	MATH1030—Matrix Theory and Linear Algebra I	2019 Summer
	MATH3080—Complex Variables	2019 Winter
TU	MATH1160—Long Calculus II	2014 Summer, 2016 Spring
	MATH1210—Calculus I	2015 Spring
	MATH1310—Consolidated Calculus	2015 Fall

### Mini-term & Reading/Independent Study Courses

Dal	MATH6200	2025 Winter—Integer Partitions and $q$ -Series
DKU	MINITERM102	2023 Spring—Experimental Mathematics and Symbolic Computation
	INDSTU391	2021–2022 (5 sections)
	2022 Fall—Introduction to Algebraic Geometry, 2022 Spring—Variational Quantum Algorithms,	
	2021 Fall, 3 sections—Riemann Zeta-Function, Quantum Algorithm, Combinatorics	

## ACADEMIC SERVICES AND MEMBERSHIPS

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2026	Organizer of the mini-symposium <i>Special Functions with Applications in Number Theory and Combinatorics</i> at The SIAM Annual Meetings, July 6–10, Cleveland, OH, U.S.A.
2025–Present	Reviewer for Mathematical Reviews @ AMS
2025	Organizer of the mini-symposium <i>Special Functions with Applications in Number Theory and Combinatorics</i> at The Third Joint SIAM/CAIMS Annual Meetings, July 27—Aug. 1, Montréal, QC, Canada
2014–Present	Reviewer for journals including: Journal of Number Theory, The Ramanujan Journal, Journal of Difference Equations and Applications, etc.

## DEPARTMENTAL AND UNIVERSITY SERVICE

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2021–Present	Organizer of the Discrete Math Seminar	Duke Kunshan University
2024	Member of 2024 Undergraduate Recruitment & Admissions Evaluation	Duke Kunshan University
2017–2020	Organizer of the Number Theory Seminar	Dalhousie University
2012–2016	Organizer of the Tee Time	Tulane University

## STUDENT MENTORING, ADVISING, AND RESEARCH ACTIVITIES

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### UNDERGRADUATE ACADEMIC ADVISOR @ DKU

- Served as primary academic advisor for **25** students (Classes of 2022–2029).
- Provide continuous guidance on course selection, career planning, and graduate school applications.

### UNDERGRADUATE SIGNATURE WORK<sup>1</sup> ( $\cong$ HONOR THESIS) MENTOR & UNDERGRADUATE STUDENT RESEARCH PROJECTS

- Mentored **10 Signature Work projects** (Class of 2023–24) @DKU on topics ranging from Random Walks to Quantum Algorithms.
- Research Highlights & Outcomes:
  - Peer-Reviewed Publications: Guided 4 students to co-author papers in international journals (see items [29], [35], [38], [39] in Publications).
  - Software Development: Directed the development of 2 Mathematica packages for Method of Brackets and Weakly Increasing Trees.
  - International Collaboration: Co-mentored international research on Cyclotomic Polynomials with Prof. K. Dilcher (Dalhousie University).

## RELEVANT SKILLS

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*Language:* Mandarin (native), English (fluent)

*Computer:* Mathematica, SageMath, Python, Maple,  $\text{\LaTeX}$ ,  $\text{\LyX}$

*Packages:* Zonal.sage <https://jiulin90.github.io/Packages/Zonal.sage>  
 BNE.sage <https://jiulin90.github.io/Packages/BNE.sage>

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<sup>1</sup><https://signature-work.dukekunshan.edu.cn/signature-work-overview/>