

# Lin JIU

Assistant Professor of Mathematics  
Zu Chongzhi Center, Duke Kunshan University  
8 Duke Ave, Kunshan, Suzhou,  
Jiangsu Province, P. R. China, 215316

E-mails:lin.jiu@dukekunshan.edu.cn  
lin.jiu.work@gmail.com  
Tel: +86-0512-36657333  
Website: <https://JiuLin90.github.io>



## EMPLOYMENT

2023.08–Present **Assistant Professor of Mathematics**  
2024.07–Present Adjunct of the Faculty of Graduate Studies  
2023.08–2025.12 Assistant Professor of the Practice  
2020.08–2023.07 Lecturer in Mathematics  
Assistant Professor of the Practice  
2019.09–2020.07 Research Associate  
2017.09–2019.08 Killam Postdoc Fellow  
2017.03–2017.08 Research Scientist  
2016.06–2017.02 Postdoc Fellow

Zu Chongzhi Center, Duke Kunshan University(DKU)  
Dept. of Math. & Stats., Dalhousie University  
DKU Studies Unit, Duke Univ.  
Zu Chongzhi Center, DKU  
Dept. of Global Studies, Trinity Coll., Duke Univ.  
Dept. of Math. & Stats., Dalhousie Univ.  
Dept. of Math. & Stats., Dalhousie Univ.  
RICAM, Austrian Acad. Sci.  
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  
2013.09–2014.02 RISC, Johannes Kepler University, Exchange Ph.D. Student  
2008.09–2010.07 Beijing Institute of Technology, Master of Science  
2004.09–2008.06 Beijing Institute of Technology, Bachelor of Science

Advisor: Victor H. Moll  
Advisor: Carsten Schneider  
Advisor: Huafei Sun  
Thesis Advisor: Huafei Sun

## GRANT AWARDED

2023.07–2025.06	<b>WHU-DKU Joint Grant Seed</b>	Wuhan and Duke Kunshan University	DKU PI	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	PI	2K USD
	Using Gradescope in Math Courses, facilitated by CTL, DKU			
2021.07–2023.06	<b>DKU Interdisciplinary Seed Grant</b>	DKU	Co-PI	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	PI	3K CAD
	Research Support for Killam Postdocs			

## PUBLICATIONS

(While working on the projects, undergraduate students are marked with a \*)

## 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, Rieznitz, 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 Systèmes, Université Paris Sud XI, Orsay, France.

**HONORS AND AWARDS**

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**

**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**

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, L<sup>A</sup>T<sub>E</sub>X, L<sub>Y</sub>X

*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/>