Lin JIU CURRICULUM VITAE

CONTACT

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EMPLOYMENT

2019.09–2020.05 (Expected)	Research Associate Department of Mathematics and Statistics, Dalhousie University	*Mentor:Karl Dilcher*
2017.09–2019.08	Killam Postdoctoral Fellowship Department of Mathematics and Statistics, Dalhousie University	*Mentor:Karl Dilcher*
2017.03–2017.08	Postdoctoral Research Scientist, Johann Radon Institute for Computational and Applied Mathematics, Austrian Academy of Sciences	*Mentor: Christoph Koutschan*
2016.06–2017.02	Post-Doc Fellow, Research Institute for Symbolic Computation, Johannes Kepler University	*Mentors: Peter Paule & Carsten Schneider*

EDUCATION

2011.08–2016.05	Tulane University, Ph.D. in Mathematics	*Advisor: Victor Hugo Moll*
2013.09–2014.02	Research Institute for Symbolic Computation, Johannes Kepler University Exchange Ph.D. Student	*Advisor: Carsten Schneider*
2008.09–2010.07	Beijing Institute of Technology, Master of Science (Mathematics)	*Advisor: Huafei Sun*
2004.09–2008.06	Beijing Institute of Technology, Bachelor of Science (Mathematics)	

RESEARCH INTERESTS

I am in particularly interested in the following specific topics: *Bernoulli and Euler polynomials; the method of bracket integration methods; matrix representations for combinatorial and special functions*. Tools involve Symbolic Computation, Number Theory, Combinatorics, and Special Functions.

PUBLICATIONS

29. **L. Jiu** and D. Y. H. Shi, On b-ary binomial coefficients with negative entries, Submitted for Publication.
28. N. Takayama, **L. Jiu**, S. Kuriki, and Y. Zhang, Computations of the Expected Euler Characteristic for the Largest Eigenvalue of a Real Wishart Matrix, Submitted for Publication.
27. **L. Jiu** and C. Koutschan, Calculation and properties of zonal polynomials, Submitted for Publication.
26. Y. Li, B. Li, H. Sun, and **L. Jiu**, Application of entropy in Riemannian manifolds, Submitted for Publication.
25. Y. Li, B. Li, H. Sun, and **L. Jiu**, Matrix geometric means and uncertainty relation, Submitted for Publication.
24. **L. Jiu**, C. Vignat, and T. Wakhare, Analytic Continuation for Multiple Zeta Values using Symbolic Representations, To Appear in *Int. J. Number Theory*.
23. **L. Jiu** and C. Vignat, Connection coefficients for higher-order Bernoulli and Euler polynomials: a random walk approach, To Appear in *Fibonacci Quart.*
22. **L. Jiu** and D. Y. Shi, Matrix representation for multiplicative nested sums, To Appear in *Colloq. Math*.
21. **L. Jiu** and D. Y. Shi, Moments and cumulants on identities for Bernoulli and Euler numbers, To Appear in *Math. Rep. (Bucur.)*
20. **L. Jiu** and D. Y. 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 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.

INVITED TALKS

- **Orthogonal Polynomials for Higher-order Euler Polynomials**
  The 15th International Symposium on Orthogonal Polynomials, Special Functions and Applications (OPSFA), Hagenberg, Austria, July 22–26, 2019.
- **On Harmonic Sums: Integral and Matrix Representations with Connections to Partition-theoretic Generalization of the Riemann Zeta-function and Random Walks**
  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, 2019.
- **Random Walk Approaches to Identities on Higher-order Bernoulli and Euler Polynomials**
  AMS Spring Southeastern Sectional Meeting, Auburn University, Auburn, AL, U. S. A., Mar. 15–17, 2019.
- **Matrix Representation for Higher-Order Euler Polynomials**
  2019 Joint Mathematics Meetings, Baltimore, MD, U. S. A., Jan. 16–19, 2019
- **Bernoulli Symbol and Sum of Powers**
  International Congress on Mathematical Software 2018, University of Notre Dame, Notre Dame, IN, U. S. A., July 24–27, 2018.
- **Random Walks and Identities for High-order Bernoulli and Euler Polynomials**
  The 18$^{\text{th}}$ International Conference on Fibonacci Numbers and Their Applications, Dalhousie Univerisity, Halifax, NS, Canada, July 1–8, 2018
- **Matrix Representations for Bernoulli and Euler Polynomials**
  2018 Canadian Mathematical Society Summer Meeting, University of New Brunswick, Fredericton, NB, Canada, June 1–4, 2018.
- **The Probabilistic and Combinatorial Interpretations of the Bernoulli Symbol**
  2017 Canadian Mathematical Society Winter Meeting, University of Waterloo, Waterloo, ON, Canada, Dec. 8–11, 2017.
- **Bernoulli Symbol on Multiple Zeta Values at Negative Integers**
  23rd Conference on Applications of Computer Algebra (Commemorating the heritage of Jonathan Michael Borwein), Jerusalem College of Technology, Jerusalem, Israel, July 17–21, 2017.

- **On Bernoulli Symbol $\mathscr{B}$**
  Klagenfurt-Linz-Wien Workshop, Riefnitz, Austria, May 3–6, 2017.
- **The Method of Brackets (MoB) and Integrating by Differentiating (IbD) Method**
  Laboratoire des Signaux et Systemes, Université Paris Sud XI, Orsay, France, Dec. 9, 2016.
- **"Random Walks" for Harmonic Sums**
  SFB Statusseminar, Strobl, Austria, Nov. 27–30, 2016.
- **On Binomial Identities in Arbitrary Bases**
  Beijing Key Laboratory on Mathematical Characterization, Analysis and Applications of Complex Information, Beijing Institute of Technology, Beijing, China, July 26, 2016.
- **Random Walk: A Probabilistic and Geometric Approach to Number Theory**
  International Conference on Mathematical Characterization, Analysis and Applications of Complex Information, Beijing Institute of Technology, Beijing, China, July 19–20, 2016.
- **The Method of Brackets**
  The 5th International Congress on Mathematical Software (ICMS), The Zuse Institute Berlin (ZIB), Berlin, Germany, July 11–14, 2016.
- **On Bernoulli Symbol $\mathscr{B}$ and Its Applications**
  Center for Combinatorics, Nankai University, Tianjin, China, July 8, 2015.
- **Recursion Rules for the Hypergeometric Zeta Functions**
  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, 2014.
- **Implementation of an Algorithm on Converting Sums into Nested Sums**
  Laboratoire des Signaux et Systemes, Université Paris Sud XI, Orsay, France, Jan. 8, 2014.

HONORS AND AWARDS

2015–2016	Tea Doctor (for organizing departmental Tea Time)	(Math Dept., Tulane Univ.)
2014–2015	Tea Master (for organizing departmental Tea Time)	(Math Dept., Tulane Univ.)
2013–2014	Excellence in Mathematics	(Math Dept., Tulane Univ.)
2012–2013	Excellent Graduate Student Teacher	(Math Dept., 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 (CASC) Scholarship	(CASC)

TEACHING EXPERIENCE

2019 Summer	Matrix Theory and Linear Algebra I	@ Dalhousie University
2019 Winter	Introduction to Complex Variables	@ Dalhousie University
2016 Spring	Long Calculus II	@ Tulane University
2015 Fall	Consolidated Calculus	@ Tulane University
2015 Spring	Long Calculus I	@ Tulane University
2014 Summer	Long Calculus II	@ Tulane University

RELEVANT SKILLS

Language: Mandarin (native), English (fluent)
Computer: Sage, Maple, Mathematica, LyX, LaTeX