

Hui HUANG

Curriculum Vitae

School of Mathematical Sciences
Dalian University of Technology
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Personal Data

Birthplace Fuzhou, Fujian Province
Nationality People's Republic of China

Academic Employment

Aug. 2020 – present **Associate Professor**, *School of Mathematical Sciences, Dalian University of Technology, Dalian, China.*
Sept. 2017 – June 2020 **Postdoctoral Fellow**, *David R. Cheriton School of Computer Science, University of Waterloo, Waterloo, Canada.*
Working with Mark Giesbrecht, George Labahn and Eugene Zima
Mar. 2017 – Aug. 2017 **Postdoctoral Fellow**, *Institute for Algebra, Johannes Kepler University, Linz, Austria.*
Working with Manuel Kauers

Education Background

Sept. 2013 – Feb. 2017 **Doctorate studies in Applied Mathematics**, *FWF Doctoral Program "Computational Mathematics", Johannes Kepler University, Linz, Austria and Academy of Mathematics and Systems Science, University of Chinese Academy of Sciences, Beijing, China (Dual degrees).*
Supervisors: Manuel Kauers (JKU, Austria) and Ziming Li (UCAS, China)
Feb. 2017 **PhD thesis**, *Definite Sums of Hypergeometric Terms and Limits of P-Recursive Sequences (Advisors: Manuel Kauers and Ziming Li).*
Sept. 2011 – Aug. 2013 **Master-Doctorate studies in Applied Mathematics**, *Academy of Mathematics and Systems Science, Chinese Academy of Sciences, Beijing, China.*
Supervisor: Ziming Li
Sept. 2007 – July 2011 **Bachelor studies in Mathematics and Applied Mathematics**, *Xiamen University, Fujian, China.*

Research Interests

My scientific interests are computer algebra, symbolic summation and integration, Ore algebras, symbolic asymptotics and the applications of all that in combinatorics and elsewhere.

Refereed Publications

- [9] Shaoshi Chen, Qing-Hu Hou, Hui Huang, George Labahn, Rong-Hua Wang. Constructing minimal telescopers for rational functions in three discrete variables. *Advances in Applied Mathematics*, to appear.
- [8] Hui Huang, Manuel Kauers, Gargi Mukherjee. Order-Degree-Height Surfaces for Linear Operators. In *Proceedings of the 2022 International Symposium on Symbolic and Algebraic Computation*, pages 91–99, ACM, New York, 2022.
- [7] Mark Giesbrecht, Hui Huang, George Labahn, Eugene Zima. Efficient rational creative telescoping. *Journal of Symbolic Computation*, 109:57–87, 2022.
- [6] Mark Giesbrecht, Hui Huang, George Labahn, Eugene Zima. Efficient q -integer linear decomposition of multivariate polynomials. *Journal of Symbolic Computation*, 107:122–144, 2021.
- [5] Mark Giesbrecht, Hui Huang, George Labahn, Eugene Zima. Efficient integer-linear decomposition of multivariate polynomials. In *Proceedings of the 2019 International Symposium on Symbolic and Algebraic Computation*, pages 171–178, ACM, New York, 2019.
- [4] Hui Huang, Manuel Kauers. D-finite numbers. *International Journal of Number Theory*, 14(7):1827–1848, 2018.
- [3] Hao Du, Hui Huang, Ziming Li. A q -analogue of the modified Abramov-Petkovšek reduction, *Advances in Computer Algebra*, In Honour of Sergei Abramov's 70th Birthday, edited by C. Schneider, E. Zima, Springer Proceedings in Mathematics and Statistics 226, 105–129, 2018.
- [2] Hui Huang. New bounds for hypergeometric creative telescoping. In *Proceedings of the 2016 International Symposium on Symbolic and Algebraic Computation*, pages 279–286. ACM, New York, 2016. (Distinguished Female Student Award.)
- [1] Shaoshi Chen, Hui Huang, Manuel Kauers, Ziming Li. A modified Abramov-Petkovšek reduction and creative telescoping for hypergeometric terms. In *Proceedings of the 2015 International Symposium on Symbolic and Algebraic Computation*, pages 117–124. ACM, New York, 2015.

Other Publications

- Shaoshi Chen, Hui Huang, Ziming Li. Improved Abramov-Petkovšek's reduction and creative telescoping for hypergeometric terms (Poster at ISSAC'14). In *ACM Communications in Computer Algebra*, 48(3/4):106-108. ACM, New York, 2014. (Distinguished Poster Award.)

Selected Conference, Workshop and Colloquium Talks

- July 2022 **Order-Degree-Height Surfaces for Linear Operators.**
ISSAC'22 (47th International Symposium on Symbolic and Algebraic Computation), Université de Lille, Lille, France.
- Aug. 2021 **Efficient Rational Creative Telescoping.**
SIAM-AG21 (SIAM Conference on Applied Algebraic Geometry 2021), Virtual, Online.

- July 2021 **Constructing Minimal Telescopers for Rational Functions in Three Discrete Variables.**
ACA'21 (26th International Conference on Applications of Computer Algebra), Virtual, Online.
- June 2021 **Efficient Rational Creative Telescoping.**
CM'21 (Computer Mathematics 2021), Guilin University Of Electronic Technology, Guilin, China.
- July 2019 **Efficient Rational Creative Telescoping.**
OPSFA'19 (15th International Symposium on Orthogonal Polynomials, Special Functions and Applications), Research Institute for Symbolic Computation, Hagenberg, Austria.
- July 2019 **Efficient Integer-Linear Decomposition of Multivariate Polynomials.**
ISSAC'19 (44th International Symposium on Symbolic and Algebraic Computation), Beihang University, Beijing, China.
- July 2017 **D-finite numbers.**
ACA'17 (23rd International Conference on Applications of Computer Algebra), Jerusalem College of Technology, Jerusalem, Israel.
- July 2016 **New Bounds for Hypergeometric Creative Telescoping.**
ISSAC'16 (41st International Symposium on Symbolic and Algebraic Computation), Wilfrid Laurier University, Waterloo, Canada.
- June 2016 **Reduction and Creative Telescoping for Hypergeometric Terms.**
Center for Combinatorics Seminar, Nankai University, Tianjin, China.
- Nov. 2015 **Two Applications of the Modified Abramov-Petkovšek Reduction.**
CM'15 (Computer Mathematics 2015), University of Science and Technology of China, Hefei, China.
- July 2015 **A Modified Abramov-Petkovšek Reduction and Creative Telescoping for Hypergeometric Terms.**
ISSAC'15 (40th International Symposium on Symbolic and Algebraic Computation), The University of Bath, Bath, United Kingdom.
- June 2015 **Creative Telescoping via Abramov's Reduction.**
CanaDAM'15 (Canadian Discrete and Algorithmic Mathematics Conference), University of Saskatchewan, Saskatoon, Canada.
- Aug. 2013 **An Improved Abramov-Petkovšek Reduction for Hypergeometric Terms.**
CM'13 (Computer Mathematics 2013), Jilin University, Changchun, China.

Academic Awards

- July 2016 Distinguished Female Student Award at ISSAC 2016
- July 2014 Distinguished Poster Award at ISSAC 2014 (together with S. Chen and Z. Li)