

Curriculum Vitae

Personal Data

Full name Priv.-Doz. Dipl.-Inf. Dr. Christoph Bernhard Koutschan
Date of birth 12.12.1978
Place of birth Dillingen an der Donau, Germany
Nationality German
Marital status Married, two children

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Education and Work Experience

05/2017 Habilitation in Mathematics, Johannes Kepler University Linz, Austria.
Thesis: *Quod Erat Demonstrandum: Proofs by Computer*
(evaluation committee: James H. Davenport, Christian Krattenthaler,
Marko Petkovšek, Bruno Salvy, Carsten Schneider, Nobuki Takayama)

09/2012 – Research scientist at the Johann Radon Institute for Computational and
Applied Mathematics (RICAM), Linz, Austria.

09/2011 – 08/2012 Postdoctoral researcher at Institut National de Recherche en Informatique
et en Automatique (INRIA), MSR-INRIA Joint Centre, Orsay, France.

09/2010 – 08/2011 Postdoctoral researcher at the Research Institute for Symbolic Computa-
tion (RISC), Linz, Austria.

10/2009 – 06/2010 Postdoctoral researcher at Tulane University, New Orleans, USA.

10/2005 – 09/2009 Ph.D. studies in symbolic computation at RISC, Johannes Kepler Univer-
sity Linz, Austria.
Ph.D. thesis: *Advanced Applications of the Holonomic Systems Approach*
(advisor: Univ.-Prof. Dr. Peter Paule)

- 10/1999 – 07/2005 Undergraduate studies in computer science (minor subject: mathematics), Friedrich-Alexander University of Erlangen-Nürnberg, Germany.
Diploma thesis: *Regular Languages and Their Generating Function: The Inverse Problem* (advisor: Prof. Dr. Volker Strehl)
- 07/1998 – 07/1999 Civil Service
- 06/1998 High school graduation (Abitur) in Coburg, Germany.

Career-Related Activities

- ▷ general chair for ISSAC 2026
- ▷ co-organizer (with D. Robertz) of the computer algebra section (2025)
- ▷ member of the local organizing committee of the 2025 ÖMG—DMV Annual Meeting
- ▷ program committee member at ISSAC 2025
- ▷ editorial board member of the Journal of Difference Equations and Applications
- ▷ steering committee member for OPSFA (2022 – 2025)
- ▷ program committee member at ISSAC 2022
- ▷ program committee member at FPSAC 2022
- ▷ session organizer at ACA 2021
- ▷ editorial board member of the Journal of Symbolic Computation
- ▷ guest editor for Integral Transforms and Special Functions
- ▷ program committee member at ISSAC 2020
- ▷ program committee member and session organizer at ICMS 2020
- ▷ editorial board member of Annals of Combinatorics
- ▷ member and treasurer of the work council of the Austrian Academy of Sciences
- ▷ organizer of the conference OPSFA15 (2019)
- ▷ program committee member at FPSAC 2019
- ▷ program committee member at SYNASC 2018
- ▷ session organizer at ICMS 2018
- ▷ program committee member at DART8 (2017)
- ▷ guest editor for Mathematics in Computer Science
- ▷ program committee member at ISSAC 2017
- ▷ session organizer at ACA 2017
- ▷ employee representative at RICAM
- ▷ session organizer at the Workshop on Symbolic Computation and Algebraic Statistics (Kyoto, 2016)
- ▷ session organizer at ICMS (International Congress on Mathematical Software, Berlin, 2016)
- ▷ poster committee member at ISSAC 2016
- ▷ co-organizer (with I. Georgieva, C. Hofreither, V. Pillwein, R. Uluchev) of the Workshop on Approximation Theory, CAGD, Numerical Analysis, and Symbolic Computation (Linz, 2015)
- ▷ co-organizer (with H. Hauser, G. Rond) of the Workshop on Approximation and Combinatorics (CIRM, Luminy, France, 2015)
- ▷ help with conference organization (ISSAC 2008, ACA 2008, FPSAC 2009)
- ▷ conduct one-week workshops for high school students (2007, 2008, 2009)

- ▷ member of DMV and ÖMG
- ▷ reviewer for Zentralblatt MATH and Mathematical Reviews
- ▷ contribute to the Online Encyclopedia of Integer Sequences (OEIS)

Awards

- ▷ 2021 Applications of Computer Algebra Early Researcher Award (ACA-ERA)
- ▷ 2016 David P. Robbins Prize of the American Mathematical Society (together with M. Kauers and D. Zeilberger)
- ▷ 2016 Distinguished Software Presentation Award at ISSAC

Third-Party Funding

- ▷ Efficient Algorithms for Guessing, Inequalities, and Summation (project part of FWF International Cooperation Project I 6130-N, 2023–2027, 92,106 EUR)
- ▷ Security and Safety for Shared Artificial Intelligence (project part of FFG COMET-K2 centre, 2020–2023, 210,000 EUR)
- ▷ Certificate-free Summation and Integration (SFB project part F 5011-N15, 2017–2021, 345,539 EUR)
- ▷ Algebraic Statistics and Symbolic Computation (FWF stand-alone project P 29467-N32, 2016–2018, 155,904 EUR)

Patents

- ▷ Joachim Schöberl, Christoph Koutschan, Peter Paule. *Verfahren, Vorrichtung und Computerprogrammprodukt zur Bestimmung eines elektromagnetischen Nahfeldes einer Feldanregungsquelle eines elektrischen Systems (Method, device and computer program product for determining an electromagnetic near field of a field excitation source for an electrical system)*. European Patent EP2378444, US patent US8868382, 2015.

Publications

- [95] Shaoshi Chen, Christoph Koutschan, Yisen Wang. *How to generate all possible rational Wilf–Zeilberger forms?* Journal of Symbolic Computation **132**, 102473, 2026. DOI: [10.1016/j.jsc.2025.102473](https://doi.org/10.1016/j.jsc.2025.102473), arXiv: [2405.02430](https://arxiv.org/abs/2405.02430).
- [94] Shaoshi Chen, Manuel Kauers, Christoph Koutschan. *Creative telescoping*. Technical report no. 2502.05345 on arXiv, 2025. Submitted for publication. arXiv: [2502.05345](https://arxiv.org/abs/2502.05345).
- [93] Manuel Kauers, Christoph Koutschan, Thibaut Verron. *A shape lemma for ideals of differential operators*. Journal of Algebra **677**, pp. 448–459, 2025. DOI: [10.1016/j.jalgebra.2025.04.015](https://doi.org/10.1016/j.jalgebra.2025.04.015), arXiv: [2502.11787](https://arxiv.org/abs/2502.11787).
- [92] Shaoshi Chen, Manuel Kauers, Christoph Koutschan, Xiuyun Li, Rong-Hua Wang, Yisen Wang. *Non-minimality of minimal telescopers explained by residues*. In *Proceedings of the International Symposium on Symbolic and Algebraic Computation (ISSAC)*, 2025. ACM, New York, USA. To appear. arXiv: [2502.03757](https://arxiv.org/abs/2502.03757).
- [91] Robert Dougherty-Bliss, Christoph Koutschan, Natalya Ter-Saakov, Doron Zeilberger. *The (symbolic and numeric) computational challenges of counting 0-1 balanced matrices*. Enumerative Combinatorics and Applications **5**(2), #S2R14, 2025. DOI: [10.54550/ECA2025V5S2R14](https://doi.org/10.54550/ECA2025V5S2R14), arXiv: [2410.07435](https://arxiv.org/abs/2410.07435).

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- [89] Christoph Koutschan, Christian Krattenthaler, Michael J. Schlosser. *Determinant evaluations inspired by Di Francesco's determinant for twenty-vertex configurations*. Journal of Symbolic Computation **127**(2), 102352, 2025. DOI: [10.1016/j.jsc.2024.102352](https://doi.org/10.1016/j.jsc.2024.102352), arXiv: [2401.08481](https://arxiv.org/abs/2401.08481).
- [88] Christoph Koutschan, Bernhard Moser, Anton Ponomarchuk, Josef Schicho. *Representing piecewise linear functions by functions with small arity*. Applicable Algebra in Engineering, Communication and Computing **36**(4), pp. 595–610, 2025. DOI: [10.1007/s00200-023-00627-1](https://doi.org/10.1007/s00200-023-00627-1), arXiv: [2305.16933](https://arxiv.org/abs/2305.16933).
- [87] Lina Ellis, Ikumi Ellis, Christoph Koutschan, Sergei K. Suslov. *On potentials integrated by the Nikiforov–Uvarov method*. In Howard S. Cohl, Roberto S. Costas-Santos, Robert S. Maier (editors): *Applications and q -Extensions of Hypergeometric Functions*, Contemporary Mathematics **819**, pp. 43–95, 2025. American Mathematical Society, 978-1-4704-7654-0. DOI: [10.1090/conm/819/16388](https://doi.org/10.1090/conm/819/16388), arXiv: [2303.02560](https://arxiv.org/abs/2303.02560).
- [86] Christoph Koutschan, Anton Ponomarchuk, Josef Schicho. *Representing piecewise-linear functions by functions with minimal arity*. Technical report no. 2024-11 in the RICAM Reports Series, 2024. Submitted for publication. arXiv: [2406.02421](https://arxiv.org/abs/2406.02421).
- [85] Roger E. Behrend, Ilse Fischer, Christoph Koutschan. *Diagonally symmetric alternating sign matrices*. Technical report no. 2023-27 in the RICAM Reports Series, 2023. Submitted for publication. arXiv: [2309.08446](https://arxiv.org/abs/2309.08446).
- [84] Ilias S. Kotsireas, Christoph Koutschan, Dursun A. Bulutoglu, David M. Arquette, Jonathan S. Turner, Kenneth J. Ryan. *Legendre pairs of lengths $\ell \equiv 0 \pmod{5}$* . Special Matrices **11**(1), 20230105, 2023. DOI: [10.1515/spma-2023-0105](https://doi.org/10.1515/spma-2023-0105), arXiv: [2111.02105](https://arxiv.org/abs/2111.02105).
- [83] Guy Katriel, Udi Mahanaymi, Christoph Koutschan, Doron Zeilberger, Mike Steel, Sagi Snir. *Using generating functions to prove additivity of gene-neighborhood based phylogenetics*. In Xuan Guo, Serghei Mangul, Murray Patterson, Alexander Zelikovsky (editors): *Bioinformatics Research and Applications (Proceedings of ISBRA 2023)*, Lecture Notes in Bioinformatics **14248**, pp. 120–135, 2023. Springer Nature, 152 Beach Road, #21-01/04 Gateway East, Singapore 189721, Singapore, ISBN 978-981-99-7073-5, ISSN 2366-6323. DOI: [10.1007/978-981-99-7074-2_10](https://doi.org/10.1007/978-981-99-7074-2_10).
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Talks at Conferences

- 67. *Identity found by proving identities*. Invited plenary talk at FPSAC (37th International Conference on Formal Power Series and Algebraic Combinatorics), Hokkaido University, Sapporo, Japan, July 24, 2025.
- 66. *Algorithmic Methods for Enumerative Combinatorics*. Invited lecture at Journées ALEA, CIRM, Luminy, France, March 17 – March 18, 2025.
- 65. *Creative Telescoping for D-Finite Functions*. Invited lecture at Journées Nationales de Calcul Formel (JNCF), CIRM, Luminy, France, March 5 – March 7, 2024.
- 64. *Creative telescoping*. Invited lecture at the special programme “Recent Trends in Computer Algebra”, Institut Henri Poincaré, Paris, November 27 – December 1, 2023.
- 63. *Tweaking the Beukers integrals in search of more miraculous irrationality proofs à la Apéry*. Invited talk at the Workshop on Effective Aspects in Diophantine Approximation, Institut Camille Jordan, Université Lyon 1, March 30, 2023.
- 62. *Guessing with little data*. Contributed talk at ISSAC (47th International Symposium on Symbolic and Algebraic Computation), Université de Lille, France, July 6, 2022.
- 61. *Abzählformeln für Rauten-Parkettierungen mittels holonomem Ansatz*. Invited talk at the DMV-ÖMG Annual Conference, University of Passau, Germany, September 27, 2021.

60. *Realizations of rigid graphs*. Invited talk at ADG (13th International Conference on Automated Deduction in Geometry), September 15, 2021.
59. *Automated proofs of mathematical identities*. Contributed talk at SCSS (9th International Symposium on Symbolic Computation in Software Science), September 10, 2021.
58. *Binomial determinants for tiling problems yield to the holonomic ansatz*. Invited talk at Combinatorics and Algebras from A to Z, July 29, 2021.
57. *Holonomic Integration*. Invited talk at the Workshop on Antidifferentiation and the Calculation of Feynman Amplitudes, DESY Zeuthen, Germany, October 6, 2020.
56. *Diagonals of rational functions*. Invited talk at DART X (Differential Algebra and Related Topics), City University New York, USA, February 10, 2020.
55. *Computer algebra for basic hypergeometric functions*. Invited talk at OPSFA (15th International Symposium on Orthogonal Polynomials, Special Functions, and Applications), RISC, Hagenberg, Austria, July 24, 2019.
54. *Diagonals, determinants, and rigidity*. Invited talk at the Conference on Applied Algebraic Geometry (Minisymposium “Symbolic Combinatorics”), University of Bern, Switzerland, July 12, 2019.
53. *Enumeration of diagonally symmetric alternating sign matrices*. Invited talk at Transient Transcendence in Transylvania, Braşov, Romania, May 13, 2019.
52. *Symbolic evaluation of determinants and rhombus tilings of holey hexagons*. Contributed talk at the Workshop on Enumerative Combinatorics, Mathematisches Forschungsinstitut Oberwolfach, Germany, May 15, 2018.
51. *Symbolic evaluation of determinants and rhombus tilings of holey hexagons*. Invited talk at the Workshop on Computer Algebra in Combinatorics, Erwin Schrödinger Institut (ESI), Vienna, Austria, November 16, 2017.
50. *Computer algebra in the q -calculus*. Invited talk at the Combinatorics meeting on the occasion of Johann Cigler’s 80. birthday, University of Vienna, Austria, October 25, 2017.
49. *Symbolic evaluation of determinants and rhombus tilings of holey hexagons*. Invited talk at the ALEA in Europe Workshop, Technical University of Vienna, Austria, October 12, 2017.
48. *Reduction-based creative telescoping for D -finite functions*. Invited talk at Lattice walks at the Interface of Algebra, Analysis and Combinatorics, Banff International Research Station, Canada, September 19, 2017.
47. *Computing the number of realizations of Laman graphs*. Invited talk at the CMAPT (Workshop on Computational Mathematics and Approximation Theory), RICAM, Linz, Austria, September 8, 2017.
46. *Constructing linkages for drawing plane curves*. Invited talk at ACA (23rd Conference on Applications of Computer Algebra), Jerusalem College of Technology, Jerusalem, Israel, July 21, 2017.
45. *Two facets of computational mathematics: numerics and symbolics*. Invited talk at the ERCOM Meeting, RICAM, Austria, April 28, 2017.
44. *Reduction-based creative telescoping for algebraic functions*. Invited talk at the Workshop on Algebraic Statistics and Symbolic Computation, Research Institute for Mathematical Sciences (RIMS), Kyoto University, Japan, July 28, 2016.
43. *Inverse inequality estimates with symbolic computation*. Invited talk at the Waterloo Workshop on Computer Algebra, Wilfrid Laurier University, Waterloo, Canada, July 23, 2016.
42. *Motion polynomials and planar linkages*. Software presentation at ISSAC (41st International Symposium on Symbolic and Algebraic Computation), Wilfrid Laurier University, Waterloo, Canada, July 20, 2016.

41. *Minimally rigid graphs*. Invited talk at MICA (Milestones in Computer Algebra — Celebrating the Research of Erich Kaltofen), University of Waterloo, Canada, July 16, 2016.
40. *Effective algebraic analysis approach to linear systems over Ore algebras*. Invited talk at ICMS (5th International Congress on Mathematical Software), Zuse Institute Berlin, Germany, July 12, 2016.
39. *Inverse inequality estimates with symbolic computation*. Invited talk at the Workshop on Analysis and Advanced Numerical Methods for Partial Differential Equations, Strobl, Austria, July 8, 2016.
38. *Symbolic determinant evaluation*. Invited talk at the Workshop on Algebra, Geometry and Proofs in Symbolic Computation, Fields Institute, Toronto, Canada, December 15, 2015.
37. *Planar linkages following a prescribed motion*. Invited talk at the Workshop on Approximation Theory, CAGD, Numerical Analysis, and Symbolic Computation, Linz, Austria, August 25, 2015.
36. *Pushing forward the dimension of fcc lattices*. Invited talk at the Sixth International Workshop on Differential Algebra and Related Topics (DART-VI, embedded conference of ICIAM), China National Convention Center, Beijing, China, August 10, 2015.
35. *Computer-algebra-based MIMO performance analysis*. Invited talk at the SIAM Conference on Applied Algebraic Geometry, National Institute for Mathematical Sciences (NIMS), Daejeon, South Korea, August 7, 2015.
34. *Pushing forward the dimension of fcc lattices*. Invited talk at SIAM-OPSFA (13th International Symposium on Orthogonal Polynomials, Special Functions & Applications), National Institute of Standards and Technology (NIST), Gaithersburg, USA, June 2, 2015.
33. *Multivariate D -finite and holonomic functions*. Invited talk at the Workshop on Approximation and Combinatorics, Centre international de rencontres mathématiques (CIRM), Luminy, France, April 23, 2015.
32. *Planar linkages following a prescribed motion*. Invited talk at the Computer Algebra Seminar, Kobe University, Japan, March 8, 2015.
31. *Software demo: the HolonomicFunctions package*. Invited talk at the Workshop on computational and algebraic methods in statistics, University of Tokyo, Japan, March 3, 2015.
30. *q -shift operators in knot theory*. Invited talk at the Symbolic Analysis Workshop at FoCM (Foundations of Computational Mathematics), Universidad de la República, Montevideo, Uruguay, December 16, 2014.
29. *Creative telescoping*. Invited talk at the Workshop on geometric control and related fields, RICAM, Linz, Austria, November 17, 2014.
28. *Symbolic computation in knot theory*. Invited talk at the Workshop on Approximation Theory, CAGD, Numerical Analysis, and Symbolic Computation, Sozopol, Bulgaria, August 27, 2014.
27. *A generalized Apagodu-Zeilberger algorithm*. Contributed talk at ISSAC (39th International Symposium on Symbolic and Algebraic Computation), Kobe University, Japan, July 23, 2014.
26. *On the AJ conjecture of connected sums of knots*. Invited talk at the Programme on Combinatorics, Geometry, and Physics, Erwin Schrödinger Institut (ESI), Vienna, Austria, July 17, 2014.
25. *A rational perspective on holonomic functions*. Invited talk at CASTA (Computational Algebraic Statistics, Theories and Applications), Kyoto, Japan, January 22, 2014.
24. *A glimpse of noncommutative Gröbner bases*. Invited talk at the conference Gröbner Bases, Resultants and Linear Algebra, RISC, Johannes Kepler University Linz, Austria, September 6, 2013.

23. *Holonomic functions in Mathematica*. Software presentation at ISSAC (38th International Symposium on Symbolic and Algebraic Computation), Northeastern University, Boston, Massachusetts, USA, June 27, 2013.
22. *Holonomicity and properness are equivalent*. Contributed talk at LARD (Linz Algebra Research Day), Johannes Kepler University Linz, Austria, June 19, 2013.
21. *Zeilberger's holonomic ansatz for Pfaffians*. Contributed talk at ISSAC (37th International Symposium on Symbolic and Algebraic Computation), University of Grenoble, France, July 24, 2012.
20. *Twisting q -holonomic sequences by complex roots of unity*. Contributed talk at ISSAC (37th International Symposium on Symbolic and Algebraic Computation), University of Grenoble, France, July 23, 2012.
19. *Twisting q -holonomic sequences by complex roots of unity*. Invited talk at ACA (18th International Conference on Applications of Computer Algebra), Institute of Mathematics and Informatics at the Bulgarian Academy of Sciences, Sofia, Bulgaria, June 28, 2012.
18. *The face-centered cubic lattice*. Invited talk at FELIM (Functional Equations in LIMoges), Faculty of Sciences and Techniques of the University of Limoges, France, March 5, 2012.
17. *Advanced computer algebra for evaluating determinants*. Contributed talk at JNCF (Journées Nationales de Calcul Formel), CIRM Luminy (Marseille), France, November 16, 2011.
16. *Lattice Green's functions of the higher-dimensional face-centered cubic lattices*. Invited talk at the Conference on Applied Algebraic Geometry (Minisymposium "Symbolic Combinatorics"), North Carolina State University, Raleigh, North Carolina, USA, October 6, 2011.
15. *Lattice Green's functions of the higher-dimensional face-centered cubic lattices*. Invited talk at CSASC (Joint Mathematical Conference of the Austrian Mathematical Society together with the Catalan, Czech, Slovak, and Slovenian Mathematical Societies, Minisymposium "Combinatorics and Graph Theory"), Donau-Universität Krems, Austria, September 27, 2011.
14. *Lattice Green's functions*. Invited talk at ACA (17th International Conference on Applications of Computer Algebra), Lamar University, Houston, Texas, USA, June 28, 2011.
13. *Software for special functions*. Invited talk at ICASF (International Conference on Asymptotics and Special Functions), City University of Hong Kong, China, June 1, 2011.
12. *Computer algebra tools for summation and integration*. Invited talk at CMIC (Chiang Mai International Conference), Chiang Mai University, Thailand, January 6, 2011.
11. *Algorithmic combinatorics: symbolic summation and integration*. Tutorial at CMIC (Chiang Mai International Conference), Chiang Mai University, Thailand, January 4–5, 2011.
10. *Proof of the q -TSPC Conjecture*. Contributed talk at SLC 65 (Séminaire Lotharingien de Combinatoire), Strobl, Austria, September 13, 2010.
9. *Proof of George Andrews' and David Robbins' q -TSPC Conjecture*. Contributed talk at the Conference in Honor of Doron Zeilberger's 60th Birthday, Rutgers University, New Jersey, USA, May 27, 2010.
8. *HolonomicFunctions*. Software presentation at FPSAC (21st International Conference on Formal Power Series and Algebraic Combinatorics), RISC, Johannes Kepler University Linz, Austria, July 22, 2009.
7. *Think Big (or how to tackle hard problems with the holonomic systems approach)*. Invited talk at the Summation Workshop, RISC, Johannes Kepler University Linz, Austria, July 19, 2009.
6. *Algorithmic proving of special function identities in Mathematica*. Invited talk at ACA (15th International Conference on Applications of Computer Algebra), École de technologie supérieure, Montréal, Canada, June 26, 2009.

5. *A difference operators attack on hard combinatorial problems.* Invited talk at ACA (15th International Conference on Applications of Computer Algebra), École de technologie supérieure, Montréal, Canada, June 25, 2009.
4. *How to prove the q -TSP Conjecture?* Invited talk at the AMS Joint Mathematics Meeting, Washington DC, USA, January 5, 2009.
3. *Proof of Ira Gessel's lattice path conjecture.* Contributed talk at SLC 61 (Séminaire Lotharingien de Combinatoire), Curia, Portugal, September 24, 2008.
2. *Holonomic function identities.* Invited talk at ACA (14th International Conference on Applications of Computer Algebra), RISC, Johannes Kepler University Linz, Austria, July 27, 2008.
1. *Proof of Ira Gessel's lattice path conjecture.* Invited talk at SNSC (4th International Conference on Symbolic and Numerical Scientific Computing), RISC, Johannes Kepler University Linz, Austria, July 25, 2008.

Peer-Reviewing Activities

For each journal and conference the number of completed reviews is given in parentheses.

- ▷ ISSAC (31)
- ▷ Journal of Symbolic Computation (17)
- ▷ Journal of Physics A: Mathematical and Theoretical (14)
- ▷ Journal of Combinatorial Theory, Series A (5)
- ▷ Advances in Applied Mathematics (4)
- ▷ Journal of Mathematical Analysis and Applications (4)
- ▷ Discrete Mathematics (3)
- ▷ Electronic Journal of Combinatorics (3)
- ▷ Journal of Difference Equations and Applications (3)
- ▷ Mathematics in Computer Science (3)
- ▷ American Mathematical Monthly (2)
- ▷ CASC (2)
- ▷ European Journal of Combinatorics (2)
- ▷ FPSAC (2)
- ▷ Ramanujan Journal (2)
- ▷ Springer Proceedings in Mathematics & Statistics (2)
- ▷ Acta Arithmetica (1)
- ▷ Acta Physica Polonica A (1)
- ▷ Ain Shams Engineering Journal (1)
- ▷ Annals of Combinatorics (1)
- ▷ Arabian Journal of Mathematics (1)
- ▷ Ars Mathematica Contemporanea (1)
- ▷ Applicable Algebra in Engineering, Communication and Computing (1)
- ▷ Bulletin of the Malaysian Mathematical Sciences Society (1)
- ▷ Computational Methods and Function Theory (1)
- ▷ Discrete & Computational Geometry (1)
- ▷ European Journal of Mathematics (1)

- ▷ Experimental Mathematics (1)
- ▷ Fluctuation and Noise Letters (1)
- ▷ Foundations of Computational Mathematics (1)
- ▷ International Journal of Computer Mathematics (1)
- ▷ International Journal of Theoretical Physics (1)
- ▷ Inventiones Mathematicae (1)
- ▷ Journal of Algebraic Statistics (1)
- ▷ Journal of Complexity (1)
- ▷ Journal of Computer and System Sciences (1)
- ▷ Journal of Integer Sequences (1)
- ▷ Journal of Number Theory (1)
- ▷ Journal of Systems Science & Complexity (1)
- ▷ Journal of the London Mathematical Society (1)
- ▷ Lecture Notes in Computer Science (1)
- ▷ Linear Algebra and its Applications (1)
- ▷ L'Enseignement Mathématique (1)
- ▷ Mathematical Methods in the Applied Sciences (1)
- ▷ Open Mathematics (1)
- ▷ Reports on Mathematical Physics (1)
- ▷ SIGMA (1)
- ▷ Theoretical Computer Science (1)
- ▷ Transactions of the AMS (1)
- ▷ Transactions on Mathematical Software (1)

Teaching

Semester	School	Type	Title
S 2025	JKU	Exercises	Algebra für InformatikerInnen
	FHH	Lecture	Mathematik 1 – Algebra
W 2024	FHH	Lecture	Logische und formale Grundlagen der Informatik
S 2024	JKU	Lecture	Algebra für InformatikerInnen
	FHH	Lecture	Mathematik 1 – Algebra
W 2023	FHH	Lecture	Logische und formale Grundlagen der Informatik
S 2023	JKU	Lecture	Algebra für InformatikerInnen
	FHH	Lecture	Mathematik 1 – Algebra
W 2022	FHH	Lecture	Logische und formale Grundlagen der Informatik
S 2022	JKU	Lecture	Algebra für InformatikerInnen
	FHH	Lecture	Mathematik 1 – Algebra
W 2021	JKU	Lecture	Mathematik 1 für Mechatronik, Kunststofftechnik, Elektronik und Informationstechnik, Medical Engineering, Maschinenbau
	FHH	Lecture	Logische und formale Grundlagen der Informatik

S 2021	JKU	Lecture	Algebra für InformatikerInnen
	FHH	Lecture	Mathematik 1 – Algebra
W 2020	FHH	Lecture	Logische und formale Grundlagen der Informatik
S 2020	JKU	Lecture	Algebra für InformatikerInnen
	FHH	Lecture	Mathematik 1 – Algebra
W 2019	JKU	Exercises	Mathematik und Logik
	FHH	Lecture	Logische und formale Grundlagen der Informatik
S 2019	JKU	Exercises	Algebra für InformatikerInnen
	FHH	Lecture	Mathematik 1 – Algebra
W 2018	FHH	Lecture	Logische und formale Grundlagen der Informatik
S 2018	JKU	Lecture	Mathematik 2 für Mechatronik, Kunststofftechnik, Elektronik und Informationstechnik
	FHH	Lecture	Mathematik 1 – Algebra
W 2017	JKU	Lecture	Mathematik 1 für Mechatronik, Kunststofftechnik, Elektronik und Informationstechnik
	FHH	Lecture	Logische und formale Grundlagen der Informatik
S 2017	JKU	Exercises	Algebra für InformatikerInnen
	FHH	Lecture	Mathematik 1 – Algebra
W 2016	FHH	Lecture	Logische und formale Grundlagen der Informatik
S 2016	JKU	Exercises	Lineare Algebra und Analytische Geometrie 2
	FHH	Lecture	Mathematik 1 – Algebra
W 2015	JKU	Exercises	Lineare Algebra und Analytische Geometrie 1
	JKU	Exercises	Mathematik und Logik für Wirtschaftsinformatiker
	FHH	Lecture	Logische und formale Grundlagen der Informatik
S 2015	FHH	Lecture	Mathematik 1 – Algebra
W 2014	FHH	Lecture	Logische und formale Grundlagen der Informatik
W 2013	JKU	Lecture	Knot Theory and Computer Algebra
	JKU	Exercises	Analysis (Mathematik 2 für Informatiker)
	FHH	Lecture	Logische und formale Grundlagen der Informatik
W 2012	JKU	Exercises	Analysis (Mathematik 2 für Informatiker)
	FHH	Lecture	Logische und formale Grundlagen der Informatik
W 2011	FHH	Lecture	Logische und formale Grundlagen der Informatik
W 2010	JKU	Lecture	Computer Algebra Systems
	JKU	Exercises	Analysis (Mathematik 2 für Informatiker)
	FHH	Exercises	Logische und formale Grundlagen der Informatik
W 2008	JKU	Lecture	Computer Algebra Systems
	JKU	Exercises	Analysis für Informatiker
W 2007	JKU	Exercises	Berechenbarkeit und Komplexität
S 2007	JKU	Exercises	Analysis für Informatiker
W 2006	JKU	Exercises	Formale Grundlagen 2

S 2005	FAU	Exercises	Einführung in die Theoretische Informatik II
S 2004	FAU	Exercises	Einführung in die Theoretische Informatik III
W 2003	FAU	Exercises	Einführung in die Theoretische Informatik II
	FAU	Exercises	Mathematik für Ingenieure I
S 2003	FAU	Exercises	Einführung in die Theoretische Informatik III
W 2002	FAU	Exercises	Mathematik für Ingenieure III
	FAU	Exercises	Organisation und Technologie von Rechensystemen I
S 2002	FAU	Exercises	Mathematik für Ingenieure II
W 2001	FAU	Exercises	Mathematik für Ingenieure I

FAU = Friedrich-Alexander-Universität Erlangen-Nürnberg

FHH = Fachhochschule Hagenberg

JKU = Johannes Kepler Universität Linz

Software

- ▷ **LamanGraphs**, a Mathematica package and C++ implementation for constructing Laman graphs and for computing their embedding numbers.
- ▷ **PlanarLinkages**, a Mathematica package for constructing and visualizing planar linkages that follow a prescribed curve (or motion), including arithmetic and factorization of motion polynomials.
- ▷ Member of the development team of DDMF (Dynamic Dictionary of Mathematical Functions), see <http://ddmf.msr-inria.inria.fr>.
- ▷ **GradshteynRyzhik**, a package for extracting all formulas from the book by Gradshteyn and Ryzhik, and for translating them into the Mathematica language.
- ▷ **HolonomicFunctions**, a Mathematica package for dealing with multivariate holonomic functions and sequences, in particular for executing closure properties, evaluating sums and integrals involving special functions, finding relations for a given function, etc.
- ▷ **qGeneratingFunctions**, a Mathematica package for manipulations of univariate q -holonomic functions and sequences.
- ▷ **RLangGFun**, a Maple implementation of the inverse Schützenberger methodology (a constructive version of Soittola's Theorem).