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

Contact

Address	Johann Radon Institute for Computational and Applied Mathematics (RICAM) Austrian Academy of Sciences Altenberger Straße 69, A-4040 Linz
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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 Computation (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 University 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

- ▷ editorial board member of the Journal of Difference Equations and Applications
- ▷ steering committee member for OPSFA (since 2022)
- ▷ 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

[88] Christoph Koutschan, Christian Krattenthaler, Michael J. Schlosser. *Determinant evaluations inspired by Di Francesco's determinant for twenty-vertex configurations.* Technical report no. 2024-01 in the RICAM Reports Series, 2024. Submitted for publication. arXiv: .

[87] 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.

[86] Ilias S. Kotsireas, Christoph Koutschan, Dursun A. Bulutoglu, David M. Arquette, Jonathan S. Turner, Kenneth J. Ryan. *Legendre pairs of lengths $\ell \equiv 0$ (mod 5).* Special Matrices **11**(1), 20230105, 2023. DOI: 10.1515/spma-2023-0105, arXiv: 2111.02105.

[85] 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 0302-9743. DOI: 10.1007/978-981-99-7074-2_10.

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[82] Manuel Kauers, Christoph Koutschan, Thibaut Verron. *Transcendence certificates for D-finite functions.* In *Proceedings of the International Symposium on Symbolic and Algebraic Computation (ISSAC)*, pp. 372–380, 2023. ACM, New York, USA, ISBN 979-8-4007-0039-2. DOI: 10.1145/3597066.3597091, arXiv: 2302.06396.

[81] Christoph Koutschan, Ali K. Uncu, Elaine Wong. *A unified approach to unimodality of Gaussian polynomials.* In *Proceedings of the International Symposium on Symbolic and Algebraic Computation (ISSAC)*, pp. 434–442, 2023. ACM, New York, USA, ISBN 979-8-4007-0039-2. DOI: 10.1145/3597066.3597113, arXiv: 2302.04067.

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[79] Manuel Kauers, Christoph Koutschan. *Some D-finite and some possibly D-finite sequences in the OEIS.* Journal of Integer Sequences **26**(4), Article 23.4.5, 2023. arXiv: 2303.02793.

[78] Lina Ellis, Ikumi Ellis, Christoph Koutschan, Sergei K. Suslov. *On potentials integrated by the Nikiforov–Uvarov method.* Technical report no. 2023-11 in the RICAM Reports Series, 2023. Submitted for publication. arXiv: 2303.02560.

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Talks at Conferences

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-TSPP Conjecture.* Contributed talk at SLC 65 (Séminaire Lotharingien de Combinatoire), Strobl, Austria, September 13, 2010.
9. *Proof of George Andrews' and David Robbins' q-TSPP 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-TSPP 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 (27)
- Journal of Symbolic Computation (15)
- Journal of Physics A: Mathematical and Theoretical (11)
- 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)
- CASC (2)
- European Journal of Combinatorics (2)
- FPSAC (2)
- Mathematics in Computer Science (2)
- Springer Proceedings in Mathematics & Statistics (2)
- Acta Arithmetica (1)
- Acta Physica Polonica A (1)
- Ain Shams Engineering Journal (1)
- American Mathematical Monthly (1)
- Annals of Combinatorics (1)

- ▷ Ars Mathematica Contemporanea (1)
- ▷ Applicable Algebra in Engineering, Communication and Computing (1)
- ▷ Computational Methods and Function Theory (1)
- ▷ Discrete & Computational Geometry (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 Mathematique (1)
- ▷ Mathematical Methods in the Applied Sciences (1)
- ▷ Open Mathematics (1)
- ▷ Ramanujan Journal (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 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).