

# CV Annamária Kovács

## Personal Data

Name Annamária Kovács, Dr.-Ing.  
Citizenship German & Hungarian  
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## Education and Positions

|                |  |  |
|----------------|--|--|
| Master's Study | 1988 -1990                                   | Civil Engineering, Technical University of Budapest.   |
|                | 1991 -1995                                   | Mathematics, Eötvös Loránd University of Sciences (ELTE), Budapest; degree as mathematician (1995), and as teacher of mathematics (1996).  |
| Employment     | 09/1995 -07/2001                             | Software development, Computer and Automation Research Institute, Hungarian Academy of Sciences.   |
|                | 09/1997 - 02/2000                            | Teaching undergraduate courses in mathematics at the Budapest University of Economics.   |
| Research       | 09/2001 - 11/2001                            | PhD student at Max-Planck Institute (MPI) for Computer Science, Saarbrücken, with support of the EU Marie Curie Fellowship Programme.  |
|                | 12/2001 - 09/2003                            | Maternity leave.   |
|                | 10/2003 - 05/2007                            | PhD student at MPI, partially with support of the EU Marie Curie Fellowship Programme; Advisors: Prof. Dr. Kurt Mehlhorn, and Prof. Dr. Katalin Friedl, Grade : Summa Cum Laude. |
|                | 06/2007 - 05/2009                            | Maternity leave.   |
|                | 06/2009 - 06/2012                            | Research associate, Goethe University, Frankfurt. Partially  |
|                | 09/2012 -                                    | by own funding (DFG Eigene Stelle).  |
|                | 03/2016 - 02/2017                            | Probationary Official (Beamtin auf Probe).   |
| 03/2017 -      | Permanent Official (Beamtin auf Lebenszeit). |  |

## Community Service

Referee for the Journal of Algorithms, SIAM Journal of Computing, Algorithmica, Optimization Letters, Operations Research Letters, Information Processing Letters, Journal of Scheduling, Discrete Applied Mathematics, Discrete Optimization, Games and Economic Behavior, Theory of Computing Systems, STOC, ICALP, SODA, ESA, SWAT, WAOA, APPROX, WINE, SAGT, AAMAS, COCOON.

Program Committee Member for SAGT 2010, 2012, and 2013, WINE 2021.

Equal opportunities representative at CS department.

## Teaching Activities

|       |          |   |                                   |
|-------|----------|---|-----------------------------------|
| WS 97 | Lecture  | “Mathematical Analysis”   | (Budapest Univ. of Economics)     |
| SS 98 | Lecture  | “Linear Algebra”  | (Budapest Univ. of Economics)     |
| WS 98 | Lecture  | “Probability Theory”  | (Budapest Univ. of Economics)     |
| SS 99 | Tutorial | “Introduction to the theory of computation”   | (Electric Ing. Fac., TU Budapest) |
| WS 99 | Lecture  | “Mathematical Analysis”   | (Budapest Univ. of Economics)     |
| SS 06 | Tutorial | “Algorithms and Data Structures”  | (Saarland University)             |
| WS 06 | Tutorial | “Graph Theory”  | (Saarland University)             |
| SS 09 | Lecture  | “Aktuelle Themen der Theoretischen Informatik: Parameterized Complexity and Algorithmic Mechanism Design” | (Goethe University, Frankfurt)    |
| SS 11 | Tutorial | “Data Structures”   | (Goethe University, Frankfurt)    |
| WS 11 | Tutorial | “Theory of Algorithms”  | (Goethe University, Frankfurt)    |
| SS 12 | Tutorial | “Data Structures”   | (Goethe University, Frankfurt)    |
| WS 12 | Seminar  | “Aktuelle Themen der Theoretischen Informatik: Algorithmen”   | (Goethe University, Frankfurt)    |
| SS 13 | Lecture  | “Effiziente Algorithmen”  | (Goethe University, Frankfurt)    |
| SS 13 | Seminar  | “Aktuelle Themen der Theoretischen Informatik: Algorithmen”   | (Goethe University, Frankfurt)    |
| WS 13 | Lecture  | “Aktuelle Themen zu Angewandte Wirtschaftsinformatik”   | (Goethe University, Frankfurt)    |
| WS 13 | Seminar  | “Aktuelle Themen der Theoretischen Informatik: Algorithmen”   | (Goethe University, Frankfurt)    |
| SS 14 | Lecture  | “Aktuelle Themen der Theoretischen Informatik: Algorithmen” (Alg. Spieltheo.)                             | (Goethe University, Frankfurt)    |
| SS 14 | Seminar  | “Aktuelle Themen der Theoretischen Informatik: Algorithmen”   | (Goethe University, Frankfurt)    |
| WS 14 | Lecture  | “Approximationsalgorithmen”   | (Goethe University, Frankfurt)    |
| WS 14 | Seminar  | “Aktuelle Themen der Theoretischen Informatik: Algorithmen”   | (Goethe University, Frankfurt)    |
| SS 15 | Lecture  | “Aktuelle Themen der Theoretischen Informatik: Algorithmen” (Alg. Spieltheo.)                             | (Goethe University, Frankfurt)    |
| SS 15 | Seminar  | “Aktuelle Themen der Theoretischen Informatik: Algorithmen”   | (Goethe University, Frankfurt)    |
| WS 15 | Lectures | “Approximationsalgorithmen 1 & 2”   | (Goethe University, Frankfurt)    |
| WS 15 | Seminar  | “Algorithmen”   | (Goethe University, Frankfurt)    |
| SS 16 | Lecture  | “Effiziente Algorithmen”  | (Goethe University, Frankfurt)    |
| SS 16 | Seminar  | “Aktuelle Themen der Theoretischen Informatik: Algorithmen”   | (Goethe University, Frankfurt)    |
| WS 16 | Lectures | “Approximationsalgorithmen 1 & 2”   | (Goethe University, Frankfurt)    |
| WS 16 | Seminar  | “Aktuelle Themen der Theoretischen Informatik”  | (Goethe University, Frankfurt)    |
| SS 17 | Lectures | “Effiziente Algorithmen 1 & 2”  | (Goethe University, Frankfurt)    |
| SS 17 | Seminar  | “Aktuelle Themen der Theoretischen Informatik”  | (Goethe University, Frankfurt)    |
| WS 17 | Lectures | “Approximationsalgorithmen 1 & 2”   | (Goethe University, Frankfurt)    |
| WS 17 | Seminar  | “Aktuelle Themen der Theoretischen Informatik”  | (Goethe University, Frankfurt)    |
| SS 18 | Lectures | “Effiziente Algorithmen 1 & 2”  | (Goethe University, Frankfurt)    |
| SS 18 | Seminar  | “Aktuelle Themen der Theoretischen Informatik”  | (Goethe University, Frankfurt)    |
| WS 18 | Seminar  | “Aktuelle Themen der Theoretischen Informatik”  | (Goethe University, Frankfurt)    |
| WS 18 | Lectures | “Approximationsalgorithmen”   | (Goethe University, Frankfurt)    |
| SS 19 | Seminar  | “Aktuelle Themen der Theoretischen Informatik”  | (Goethe University, Frankfurt)    |
| SS 19 | Lectures | “Theoretische Informatik 2”   | (Goethe University, Frankfurt)    |
| WS 19 | Seminar  | “Algorithmen”   | (Goethe University, Frankfurt)    |
| WS 19 | Lectures | “Approximationsalgorithmen 1 & 2”   | (Goethe University, Frankfurt)    |
| SS 20 | Lectures | “Effiziente Algorithmen 1 & 2”  | (Goethe University, Frankfurt)    |
| SS 20 | Seminar  | “Aktuelle Themen der Theoretischen Informatik”  | (Goethe University, Frankfurt)    |
| WS 20 | Lectures | “Approximationsalgorithmen 1 & 2”   | (Goethe University, Frankfurt)    |
| WS 20 | Seminar  | “Approximationsalgorithmen”   | (Goethe University, Frankfurt)    |

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| SS 21 | Seminar  | “Algorithmen”                       | (Goethe University, Frankfurt) |
| SS 21 | Lectures | “Theoretische Informatik 1 & 2”     | (Goethe University, Frankfurt) |
| WS 21 | Seminar  | “Approximationsalgorithmen”         | (Goethe University, Frankfurt) |
| WS 21 | Lectures | “Algorithmische Spieltheorie 1 & 2” | (Goethe University, Frankfurt) |
| SS 22 | Seminar  | “Algorithmen”                       | (Goethe University, Frankfurt) |
| SS 22 | Lectures | “Effiziente Algorithmen 1 & 2”      | (Goethe University, Frankfurt) |
| WS 22 | Seminar  | “Algorithmen”                       | (Goethe University, Frankfurt) |
| WS 22 | Lectures | “Approximationsalgorithmen 1 & 2”   | (Goethe University, Frankfurt) |
| WS 23 | Seminar  | “Algorithmen”                       | (Goethe University, Frankfurt) |
| WS 23 | Lectures | “Theoretische Informatik 1 & 2”     | (Goethe University, Frankfurt) |

## Publications

### Theses

- [1] A. Kovács. *Applications of model theory in set theoretical topology*. Master thesis (in Hungarian), Eötvös Loránd University of Sciences (ELTE), Budapest 1995.
- [2] A. Kovács. *Fast algorithms for two scheduling problems*. PhD thesis, Universität des Saarlandes, 2007.

### Refereed Journal Papers

- [3] G. Christodoulou, E. Koutsoupias, and A. Kovács. On the nisan-ronen conjecture. *SIGecom Exch.*, Vol. 20(1): pp. 41–46, 2022.
- [4] G. Christodoulou, A. Kovács, M. Schapira. Bayesian Combinatorial Auctions. *Journal of the ACM*, Vol. 63(2):11, pp. 1–19, 2016.
- [5] G. Christodoulou, A. Kovács, A. Sgouritsa, and B. Tang. Tight Bounds for the Price of Anarchy of Simultaneous First Price Auctions. *ACM Transactions on Economics and Computation*, Vol. 4(2):9, pp. 1–33, 2016.
- [6] A. Kovács, U. Meyer, G. Moruz, and A. Negoescu. The optimal structure of algorithms for  $\alpha$ -paging. *Information Processing Letters*, Vol. 115(12), pp. 932–938, 2015.
- [7] G. Christodoulou and A. Kovács. A Deterministic Truthful PTAS for Scheduling Related Machines. *SIAM Journal on Computing*, Vol. 42(4), pp. 1572–1595, 2013.
- [8] G. Christodoulou, A. Kovács, and R. van Stee. A truthful constant approximation for maximizing the minimum load on related machines. *Theoretical Computer Science*, Vol. 489–490, pp. 88–98, 2013.
- [9] A. Kovács. New approximation bounds for LPT scheduling. *Algorithmica*, Vol. 57(2), pp. 413–433, 2010.
- [10] G. Christodoulou, E. Koutsoupias, and A. Kovács. Mechanism design for fractional scheduling on unrelated machines. *ACM Transactions on Algorithms*, Vol. 6(2), 2010.
- [11] A. Kovács. Tighter approximation bounds for LPT scheduling in two special cases. In *Journal of Discrete Algorithms*, Vol. 7(3), pp. 327–340, 2009.

### Refereed Conference Papers

- [12] G. Christodoulou, E. Koutsoupias, and A. Kovács. A Proof of the Nisan-Ronen Conjecture. In *Proceedings of the 55th Annual ACM Symposium on Theory of Computing (STOC)*, pp. 672–685, STOC, 2023.
- [13] G. Christodoulou, E. Koutsoupias, and A. Kovács. Truthful Allocation in Graphs and Hypergraphs. In *48th International Colloquium on Automata, Languages, and Programming (ICALP)*, pp. 56:1–56:20, ICALP, 2021.

- [14] G. Christodoulou, E. Koutsoupias, and A. Kovács. On the Nisan-Ronen conjecture. In *62nd IEEE Annual Symposium on Foundations of Computer Science (FOCS)*, pp. 839–850, FOCS, 2021.
- [15] G. Christodoulou, E. Koutsoupias, and A. Kovács. On the Nisan-Ronen conjecture for submodular valuations. In *Proceedings of the 52nd Annual ACM SIGACT Symposium on Theory of Computing (STOC)*, pp. 1086–1096, STOC, 2020.
- [16] A. Kovács, U. Meyer, and C. Ventre. Mechanisms with Monitoring for Truthful RAM Allocation. In *Proc. 11th Int. Workshop on Internet and Network Economics (WINE)*, LNCS 9470, pp. 398–412, Springer, 2015.
- [17] A. Kovács and A. Vidali. A Characterization of  $n$ -Player Strongly Monotone Scheduling Mechanisms. In *Proc. 24th Int. Joint Conference on Artificial Intelligence (IJCAI)*, pp. 568–574, AAAI Press, 2015.
- [18] G. Christodoulou and A. Kovács. A Global Characterization of Envy-free Truthful Scheduling of Two Tasks. In *Proc. 7th Int. Workshop on Internet and Network Economics (WINE)*, LNCS 7090, pp. 84–96, Springer, 2011.
- [19] G. Christodoulou, A. Kovács, and R. van Stee. A Truthful Constant Approximation for Maximizing the Minimum Load on Related Machines. In *Proc. 6th Int. Workshop on Internet and Network Economics (WINE)*, LNCS 6484, pp. 182–193, Springer, 2010.
- [20] G. Christodoulou, and A. Kovács. A deterministic truthful PTAS for scheduling related machines. In *Proc. 21st SIAM Symposium on Discrete Algorithms (SODA)*, pp. 1005–1016, ACM-SIAM, 2010.
- [21] A. Kovács, U. Meyer, G. Moruz, and A. Negoescu. Online paging for flash memory devices. In *Proc. 20th Intl. Symp. on Algorithms and Computation (ISAAC)*, LNCS 5878, pp. 352–361, Springer, 2009.
- [22] G. Christodoulou, A. Kovács, and M. Schapira. Bayesian combinatorial auctions. In *Proc. 35th Intl. Colloquium on Automata, Languages and Programming (ICALP)*, LNCS 5126, pp. 820–832, Springer, 2008.
- [23] G. Christodoulou, E. Koutsoupias, and A. Kovács. Mechanism design for fractional scheduling on unrelated machines. In *Proc. 34th Intl. Coll. on Automata, Languages and Programming (ICALP)*, LNCS 4596, pp. 50–53, Springer, 2007.
- [24] A. Kovács. Tighter approximation bounds for LPT scheduling in two special cases. In *Proc. 12th Italian Conference on Algorithms and Complexity (CIAC)*, LNCS 3998, pp. 187–198, Springer, 2006.
- [25] A. Kovács. Fast monotone 3-approximation algorithm for scheduling related machines. In *Proc. 13th European Symposium on Algorithms (ESA)*, LNCS 3669, pp. 616–627, Springer, 2005.
- [26] A. Kovács. Polynomial time preemptive sum-multicoloring on paths. In *Proc. 32nd Intl. Colloquium on Automata, Languages and Programming (ICALP)*, LNCS 3580, pp. 840–852, Springer, 2005.
- [27] A. Kovács. Sum-multicoloring on paths. In *Proc. 21st Ann. Symp. on Theoretical Aspects of Computer Science (STACS)*, LNCS 2996, pp. 68–80, Springer, 2004.