Curriculum Vitae

Personal Information:

Name	Dr. Henning Fernau
Date of birth	January 28th, 1965
Place of birth	Nienburg (Lower Saxony)
Citizenship	German
Marital status	married, two children

Education and Academic Career:

2018 & 2021/22	Visiting professor at Univ. Orléans
2014/15 and 2017/18	Visiting professor at Univ. Dauphine in Paris
July 2006–	Full professorship in Theoretical Computer Science in Trier
Nov. 2005	Habilitation at Tübingen (Germany)
Oct. 2005–June 2006	Substituting a full professorship in Trier (Germany)
May 2005–Jan. 2006	Principal Lecturer at the Unversity of Hertfordshire (UK)
2/2002–1/2004	Senior Lecturer at the University of Newcastle (Australia)
(February 2004–	Conjoint Lecturer in Newcastle)
May 1995–	Researcher at the chair "Theoretical Computer Science" with Prof. Dr. Lange in Tübingen (Germany)
1989–1995	wissenschaftlicher Mitarbeiter (PhD student, research associate) at the chair "Computer Science for Engineers and Natural Scientists" with Prof. Dr.-Ing. Vollmar in Karlsruhe (Germany)
February 1993	Dr.rer.nat. (PhD degree) in computer science; I presented "Varianten iterierter Funktionensysteme und Methoden der formalen Sprachen" (Variants of iterated function systems and methods of formal languages) which is printed by BI-Verlag under a different title [**B1**] I completed the degree with 'sehr gut' (best grade)
1989	Diplom (M.S. degree) in computer science I completed the degree with 'sehr gut' (1.1) (nearly best grade)
1989	diploma thesis entitled "Verallgemeinerungen k-limitierter Lindenmayer-Systeme" (Generalizations of k-limited Lindenmayer Systems); its most important results are published in [**J1**]
1984–1989	Studies of computer science and mathematics in Braunschweig (Germany)
1987	Vordiplom (< B.S. degree) in mathematics
1986	Vordiplom (< B.S. degree) in computer science

In 1987–1989, I received a scholarship of the "Studienstiftung des Deutschen Volkes." I attended two Studienstiftung summer academies organized by in Völs (Italy).

Further Professional Qualifications:

since 1994	Referee of several international conferences, journals and national science foundations
since 1995	Referee of the "AMS Mathematical Reviews"
1997 till 1998	I taught "Formal Languages" at Fachhochschule (FH) Worms, Germany
2000	I taught a course at the Technical University (TU) of Vienna, Austria
2001–2006	Member of the Editorial Board of the journal *Grammars*
since 2008	Member of the Editorial Board of the journal *Algorithms*
2002-05	I taught (four times) a course at the University of Tarragona, Spain
2002	Co-Chair of "International Coll./Conf. on Grammatical Inference ICGI"
2004	PC member of ICGI
2006	PC member of SOFSEM, IWPEC, ICGI, ALT
2007	PC member of STACS
2008	PC member of LATA, ICGI
2009	PC member of LATA, IWPEC
2010	Co-Chair of LATA, organized in Trier, PC member of ALT, ICGI
2011	Special Issue Co-Editor of *Journal of Computer and System Sciences* and of *Algorithms*
2012	PC member of ICGI, IPEC
since 2012	Member of the Editorial Board of *Electronic Journal of Graph Theory and Applications*
2013	PC member of IC3
since 2013	Member of the Editorial Board of *International Journal of Computer Mathematics*
2014	PC member of FAW, ICGI
2014–2019	Editor-in-Chief of *Algorithms*
2015	PC member of ACALCI, TAMC, FAW, MCU
2016	PC member of STACS, TAMC, FAW, Highlights, ICGI
since 2016	Member of the Editorial Board of *Discrete Mathematics and Theoretical Computer Science*
since 2016	Member of the Editorial Board of *Journal of Automata, Languages and Combinatorics*
since 2016	Member of the Editorial Board of *Acta Informatica*
2017	PC member of TAMC, FAW, DCFS, DLT, AFL, IPEC
2018	PC member of MCU, DCFS, ICGI
2018	Co-Editor of a Special Issue on Reconfiguration (with *Algorithms*)
2019	PC member of CiE, CIAC, MFCS, NCMA, ARDA
2020	PC chair of CSR, editor of two related special journal issues
2021	PC member of ICGI, IWOCA, MFCS, FCT, COCOON
2022	PC co-chair of IWOCA, organized in Trier, PC member of CAI, MCU, COCOON, WALCOM
since 2022	Editor-in-Chief of *Acta Informatica*
2023	PC co-chair of FCT, PC member of AAAI, ICGI, DCFS
2024	PC co-chair of SOFSEM, PC member of AAAI, TAMC, MCU, IWOCA, WG, MFCS

Organizational Skills:

since 1988	representative of students and of research assistants within several university bodies
2000–2012	Member of the international Steering Committee of the Grammar Induction Community
2005	organization of the German "theory days" on Formal Languages
2005	organization of the international workshop TAGI (see Bull. EATCS 90, pp. 232–236, 2006)
2010	organization of LATA
2011	organization of the German "theory days" on Complexity and Algorithms
2015	organization of the German "theory days" combining the Complexity and Algorithms and the Formal Language SI groups
2015–2022	Speaker of the SIG "Automata and Formal Languages" of the GI
2015–2019	Member of the international Steering Committee of IPEC (Parameterized and Exact Computation)
2016–2022	Member of the international Steering Committee of STACS
2019–	Member of the Advisory Board of the journal 'TheoretiCS'
2022	organization of the international conference IWOCA
2022–	Member of the international Steering Committee of IWOCA

Language Skills:

fluently:	German, English, Spanish
basic knowledge:	Russian, French
I can read:	further Germanic, Romanic and Slavonic languages

Hobbies:

since 1981	I played organ / piano in church services
1982	D-examination as an organist
since 1975	member of several choirs and orchestras
	interest in learning languages, old and new

Memberships:

Gesellschaft für Informatik, EATCS

Scientific Work

I have published works on the following topics (alphabetical order):

- complexity theory, mostly parameterized complexity,
- fixed parameter algorithms,
- formal languages and algorithms related to formal languages,
- fractal geometry and formal language methods for picture processing,
- graph theory and graph algorithms,
- learning algorithms (grammar induction / grammatical inference), and pattern recognition.

The results were partially obtained as joint works with researchers from Austria, Australia, Brazil, Canada, Chech Republic, China, Cuba, France, Germany, Hungary, India, Italy, Israel, Lebanon, Luxembourg, The Netherlands, Mexico, Norway, Poland, Romania, Russia, Singapore, Spain, Sweden, The United Kingdom, and The United States of America.

Of course, I also supervised numerous diploma, master and PhD theses and other student projects. The results of some of the works (Nolle, Hüffner, Starkie, Bai, Binkele-Raible, Gulan, Kasprzik, Casel, Gobbert, Paramasivan, Gras, Bruchertseifer, Vu, Hoffmann, Wolf, Fiergolla, Mann, Haase, Goergen, Rao, in chronological order) were also presented at international conferences.

In the following, my list of publications is presented, organized according to type of publication, each ordered chronologically.

Journal Publications

J1 H. Fernau. On function-limited Lindenmayer systems. *J. Inf. Process. Cybern. EIK*, vol. 27 (1991), pp. 21–53.

J2 H. Fernau. Adult languages of propagating systems with restricted parallelism. *J. Inf. Process. Cybern. EIK*, vol. 29 (1993), pp. 249–267.

J3 H. Bordihn and H. Fernau. Accepting grammars with regulation. *International Journal of Computer Mathematics*, vol. 53 (1994), pp. 1–18.

J4 H. Fernau. Infinite iterated function systems. *Mathematische Nachrichten*, vol. 169 (1994), pp. 79–91.

J5 H. Fernau. Membership for 1-limited ET0L languages is not decidable. *J. Inf. Process. Cybern. EIK*, vol. 30 (1994), pp. 191–211.

J6 H. Fernau. Valuations of languages, with applications to fractal geometry. *Theoretical Computer Science*, vol. 137 (1995), pp. 177–217.

J7 H. Fernau. A note on uniformly limited ET0L systems with unique interpretation. *Information Processing Letters*, vol. 54 (1995), pp. 199–204.

J8 H. Fernau. A predicate for separating language classes. *EATCS Bulletin*, vol. 56 (1995), pp. 96–97.

J9 H. Fernau and H. Bordihn. Remarks on accepting parallel systems. *International Journal of Computer Mathematics*, vol. 56 (1995), pp. 51–67.

J10 H. Bordihn and H. Fernau. Accepting grammars and systems via context condition grammars. *Journal of Automata, Languages and Combinatorics*, vol. 1 (1996), pp. 97–112.

J11 H. Fernau. On grammar and language families. *Fundamenta Informaticae*, 25(1):17–34, 1996.

J12 H. Fernau. Valuations, regular expressions, and fractal geometry. *Applicable Algebra in Engineering, Communication and Computing*, vol. 7 (1996), pp. 59–75.

J13 H. Fernau. Closure properties of ordered languages. *EATCS Bulletin*, vol. 58 (1996), pp. 159–162.

J14 H. Fernau. Scattered context grammars with regulation. *Ann. Univ. Bucharest, Math.-Informatics Series*, vol. 45 (1996), pp. 41–50.

J15 H. Fernau. Remarks on propagating partition-limited ET0L systems. *Journal of Universal Computer Science*, vol. 2 (1996), pp. 745–755.

J16 H. Fernau, M. Holzer and H. Bordihn. Accepting multi-agent systems: the case of cooperating distributed grammar systems. *Computers and Artificial Intelligence*, vol. 15 (1996), pp. 123–139.

J17 H. Fernau. Membership for k-limited ET0L languages is not decidable. *Journal of Automata, Languages and Combinatorics*, vol. 1 (1996), pp. 243–245.

J18 H. Fernau and M. Holzer. Accepting multi-agent systems II. (Presented at *Workshop on Grammar Systems: Recent Results and Perspectives.* Budapest, Hungary, 26.-27. Juli 1996.) *Acta Cybernetica*, vol. 12 (1996), pp. 361–379.

J19 H. Fernau. Unconditional transfer in regulated rewriting. *Acta Informatica*, vol. 34 (1997), pp. 837–857.

J20 H. Fernau. Graph-controlled grammars as language acceptors. *Journal of Automata, Languages and Combinatorics*, vol. 2 (1997), pp. 79–91.

J21 H. Fernau and D. Wätjen. Remarks on regulated limited ET0L systems and regulated context-free grammars. *Theoretical Computer Science*, vol. 194 (1998), pp. 35–55.

J22 H. Fernau and M. Holzer. Bidirectional cooperating distributed grammar systems. *Publicationes Mathematicae, Debrecen*, vol. 54 Supplement (1999), pp. 787–806.

J23 H. Fernau and F. Stephan. Characterizations of recursively enumerable languages by programmed grammars with unconditional transfer. *Journal of Automata, Languages and Combinatorics*, vol. 4 (1999), pp. 117–142.

J24 J. Dassow, H. Fernau and Gh. Păun. On the leftmost derivation in matrix grammars. *International Journal of Foundations of Computer Science*, vol. 10 (1999), pp. 61–80.

J25 H. Bordihn, H. Fernau and M. Holzer. On accepting pure Lindenmayer systems. *Fundamenta Informaticae*, vol. 38 (1999), pp. 365–375.

J26 H. Fernau. On regulated grammars under leftmost derivation. *Grammars*, vol. 3 (2000), pp. 37–62.

J27 H. Fernau and R. Niedermeier. An efficient exact algorithm for constraint bipartite vertex cover. *Journal of Algorithms*, vol. 38 (2001), pp. 374–410.

J28 H. Fernau. Parallel communicating grammar systems with terminal transmission. *Acta Informatica*, vol. 37 (2001), pp. 511–540.

J29 H. Fernau and R. Stiebe. Valences in Lindenmayer systems. *Fundamenta Informaticae*, vol. 45 (2001), pp. 329–358.

J30 H. Fernau, R. Freund and M. Holzer. Hybrid modes in cooperating distributed grammar systems: internal versus external hybridization. *Theoretical Computer Science*, vol. 259 (2001), pp. 405–426.

J31 H. Fernau and L. Staiger. IFS and control languages. *Information and Computation*, vol. 168 (2001), pp. 125–143.

J32 H. Fernau and R. Stiebe. Sequential grammars and automata with valences. *Theoretical Computer Science*, vol. 276 (2002), pp. 377–405.

J33 H. Bordihn, H. Fernau and M. Holzer. Accepting pure grammars. *Publicationes Mathematicae, Debrecen*, vol. 60 Supplement (2002), pp. 483–510.

J34 J. Alber, H.L. Bodlaender, H. Fernau, T. Kloks and R. Niedermeier. Fixed parameter algorithms for DOMINATING SET and related problems on planar graphs. *Algorithmica*, vol. 33 (2002), pp. 461–493.

J35 H. Fernau. Even linear simple matrix languages: formal language properties and grammatical inference. *Theoretical Computer Science*, vol. 289 (2002), pp. 425–456.

J36 H. Fernau and M. Holzer. Graph controlled cooperating distributed grammar systems with singleton components. *Journal of Automata, Languages, and Combinatorics*, vol. 7 (2002), pp. 487–503.

J37 H. Fernau. Identification of function distinguishable languages. *Theoretical Computer Science*, vol. 290 (2003), pp. 1679–1711.

J38 H. Fernau and A. Meduna. On the degree of scattered context-sensitivity. *Theoretical Computer Science*, vol. 290 (2003), pp. 2121–2124.

J39 H. Fernau. Nonterminal complexity of programmed grammars. *Theoretical Computer Science*, vol. 296 (2003), pp. 225–251.

J40 H. Fernau, R. Freund and M. Holzer. Hybrid modes in cooperating distributed grammar systems: combining the t-mode with the modes $\leq k$ and $= k$. *Theoretical Computer Science*, vol. 299 (2003), pp. 633–662.

J41 H. Fernau and A. Meduna. A simultaneous reduction of several measures of descriptional complexity in scattered context grammars. *Information Processing Letters*, vol. 86 (2003), pp. 235–240.

J42 H. Fernau. Parallel grammars: a phenomenology. *GRAMMARS*, vol. 6 (2003), pp. 25–87.

J43 H. Fernau. Education(al) matters: teaching P versus NP. *EATCS Bulletin*, vol. 80 (2003), pp. 237–246.

J44 J. Alber, H. Fernau and R. Niedermeier. Graph separators: a parameterized view. *Journal of Computer and System Sciences*, vol. 67 (2003), pp. 808–832.

J45 H. Fernau. Identifying terminal distinguishable languages. *Annals of Mathematics and Artificial Intelligence*, vol. 40 (2004), pp. 263–281.

J46 H. Fernau. Complexity of a $\{0,1\}$-matrix problem. *The Australasian Journal of Combinatorics*, vol. 29 (2004), pp. 273–300.

J47 J. Alber, H. Fernau and R. Niedermeier. Parameterized complexity: exponential speedup for planar graph problems. *Journal of Algorithms,* vol. 52 (2004), pp. 26–56.

J48 H. Fernau and C. de la Higuera. Grammar induction: an invitation for formal language theorists. *GRAMMARS*, vol. 7 (2004), pp. 45–55.

J49 H. Fernau, R. Freund and M. Holzer. Representations of recursively enumerable array languages by contextual array grammars. *Fundamenta Informaticae*, vol. 64 (2005), pp. 159–170.

J50 J. Alber, H. Fan, M. R. Fellows, H. Fernau, R. Niedermeier, F. Rosamond and U. Stege. A refined search tree techniques for DOMINATING SET on planar graphs. *Journal of Computer and System Sciences*, vol. 71 (2005), pp. 385–405.

J51 H. Fernau. Two-layer planarization: improving on parameterized algorithmics. *Journal of Graph Algorithms and Applications*, vol. 9 (2005), pp. 205–238.

J52 H. Bordihn, H. Fernau, M. Holzer, V. Manca and C. Martín-Vide. Iterated Sequential Transducers as language generating devices. *Theoretical Computer Science*, vol. 369 (2006), pp. 67–81.

J53 H. Fernau, K. Reinhardt and L. Staiger. Decidability of Code Properties. *RAIRO-Informatique théorique et Applications*, vol. 41 (2007), pp. 243–259.

J54 H. Fernau. Programmmed grammars with rule queues. *International Journal of Foundations of Computer Science*, vol. 18 (2007), pp. 1209–1213.

J55 J. Chen, H. Fernau, I.A. Kanj und G. Xia. Parametric duality and kernelization: lower bounds and upper bounds on kernel size. *SIAM Journal on Computing*, vol. 37 (2007), pp. 1077–1108.

J56 H. Fernau. Learning tree languages from text. *RAIRO-Informatique théorique et Applications*, vol. 41 (2007), pp. 351–374.

J57 H. Bordihn and H. Fernau. The degree of parallelism. *Journal of Automata, Languages, and Combinatorics*, vol. 12 (2007), pp. 25–47.

J58 H. Fernau, R. Freund, M. Oswald and K. Reinhardt. Refining the nonterminal complexity of graph-controlled, programmed, and matrix grammars. *Journal of Automata, Languages, and Combinatorics*, vol. 12 (2007), pp. 117–138.

J59 H. Fernau, J. Ryan and K. A. Sugeng. A sum labelling for the flower $f_{q,p}$. *Discrete Mathematics*, vol. 308 (2008), pp. 734–740.

J60 H. Fernau. ROMAN DOMINATION: a parameterized perspective. *International Journal of Computer Mathematics*, vol. 85 (2008), pp. 25–38.

J61 H. Fernau and R. Stiebe. Blind counter automata on ω-words. *Fundamenta Informaticae*, vol. 83 (2008), pp. 51–64.

J62 V. Dujmović, H. Fernau and M. Kaufmann. Fixed parameter algorithms for one-sided crossing minimization revisited. *Journal of Discrete Algorithms*, vol. 6 (2008), pp. 313–323.

J63 J. Dassow and H. Fernau. Comparison of some descriptional complexities of 0L systems obtained by a unifying approach. *Information and Computation*, vol. 206 (2008), pp. 1095–1103.

J64 F. N. Abu-Khzam, H. Fernau and M. A. Langston. A bounded search tree algorithm for parameterized FACE COVER. *Journal of Discrete Algorithms*, vol. 6 (2008), pp. 541–552.

J65 H. Fernau. Parameterized algorithmics for linear arrangement problems. *Discrete Applied Mathematics*, vol. 156 (2008), pp. 3166–3177.

J66 H. Fernau, J. A. Rodríguez and J. M. Sigarreta. Offensive k-alliances in graphs. *Discrete Applied Mathematics*, vol. 157 (2009), pp. 177–182.

J67 H. Fernau. Algorithms for learning regular expressions from positive data. *Information and Computation*, vol. 207 (2009), pp. 521–541.

J68 J. M. Sigarreta, S. Bermudo and H. Fernau. On the complement graph and defensive k-alliances. *Discrete Applied Mathematics*, vol. 157 (2009), pp. 1687–1695.

J69 H. Fernau and D. F. Manlove. Vertex and edge covers with clustering properties: complexity and algorithms. *Journal of Discrete Algorithms*, vol. 7 (2009), pp. 149–167.

J70 H. Fernau and D. Raible. A parameterized perspective on packing paths of length two. *Journal of Combinatorial Optimization*, vol. 18 (2009), pp. 319–341.

J71 H. Fernau. A top-down approach to search-trees: improved algorithmics for 3-Hitting Set. *Algorithmica*, vol. 57 (2010), pp. 97–118.

J72 H. Fernau. Minimum Queens Dominating Set: a trivial programming exercise? *Discrete Applied Mathematics*, vol. 158 (2010), pp. 308–318.

J73 H. Fernau. Parameterized Algorithms for Hitting Set: the Weighted Case. *Theoretical Computer Science*, vol. 411 (2010), pp. 1698–1713.

J74 H. Fernau, M. Kaufmann, and M. Poths. Comparing trees via crossing minimization. *Journal of Computer and System Sciences*, vol. 76 (2010), pp. 593–608.

J75 D. Raible and H. Fernau. A New Upper Bound for Max-2-SAT: A Graph-Theoretic Approach. *Journal of Discrete Algorithms*, vol. 8 (2010), pp. 388–401.

J76 H. Fernau. Parameterized Algorithmics for d-Hitting Set. *International Journal of Computer Mathematics*, vol. 87 (2010), pp. 3157–3174.

J77 D. Binkele-Raible, H. Fernau, S. Gaspers, and M. Liedloff. Exact exponential-time algorithms for finding bicliques. *Information Processing Letters*, vol. 111 (2010), pp. 64–67.

J78 F. N. Abu-Khzam, H. Fernau, M. A. Langston, S. Lee-Cultura, and U. Stege. Charge and Reduce: A Fixed-Parameter Algorithm for String-to-String Correction. *Discrete Optimization*, vol. 8 (2011), pp. 41–49..

J79 H. Fernau and M. F. Fellows. Facility Location Problems: A Parameterized View. *Discrete Applied Mathematics*, vol. 159 (2011), pp. 1118–1130.

J80 D. Binkele-Raible, L. Brankovic, M. Cygan, H. Fernau, J. Kneis, D. Kratsch, A. Langer, M. Liedloff, M. Pilipczuk, P. Rossmanith, and J. O. Wojtaszczyk. Breaking the 2^n-barrier for Irredundance: two lines of attack. *Journal of Discrete Algorithms*, vol. 9 (2011), pp. 214–230.

J81 H. Fernau, J. Kneis, D. Kratsch, A. Langer, M. Liedloff, D. Raible and P. Rossmanith. An exact algorithm for the Maximum Leaf Spanning Tree problem. *Theoretical Computer Science*, vol. 412 (2011), pp. 6290–6302.

J82 D. Binkele-Raible and H. Fernau. An Exact Exponential Time Algorithm for Power Dominating Set. *Algorithmica*, vol. 63 (2012), pp. 323–346.

J83 G. Bai and H. Fernau. Constraint bipartite vertex cover: simpler exact algorithms and implementations. *Journal of Combinatorial Optimization*, vol. 23 (2012), pp. 331–355.

J84 D. Binkele-Raible and H. Fernau. Parameterized Measure & Conquer for Problems with no Small Kernels. *Algorithmica*, vol. 64 (2012), pp. 189–212.

J85 D. Binkele-Raible and H. Fernau. An Exact Exponential-Time Algorithm for the Directed Maximum Leaf Spanning Tree Problem. *Journal of Discrete Algorithms*, vol. 15 (2012), pp. 43–55.

J86 C. Costa Florêncio and H. Fernau. On Families of Categorial Grammars of Bounded Value, Their Learnability and Related Complexity Questions. *Theoretical Computer Science*, vol. 452 (2012), pp. 21–38.

J87 S. Bermudo and H. Fernau. Lower bounds on the differential of a graph. *Discrete Mathematics*, vol. 312 (2012), pp. 3236–3250.

J88 D. Binkele-Raible, H. Fernau, F. V. Fomin, D. Lokshtanov, and S. Saurabh. Kernel(s) for problems with no kernel: on out-trees with many leaves. *ACM Transactions on Algorithms*, vol. 8 (2012), paper no. 38.

J89 D. Binkele-Raible, H. Fernau, S. Gaspers, and M. Liedloff. Exact and Parameterized Algorithms for Max Internal Spanning Tree. *Algorithmica*, vol. 65 (2013), pp. 95–128.

J90 H. Fernau and D. Raible. Packing Paths: Recycling Saves Time. *Discrete Applied Mathematics*, vol. 161 (2013), pp. 1686–1698.

J91 L. Brankovic and H. Fernau. A novel parameterised approximation algorithm for minimum vertex cover. *Theoretical Computer Science*, vol. 511 (2013), pp. 85–108.

J92 D. Binkele-Raible, G. Erdélyi, H. Fernau, J. Goldsmith, N. Mattei, and J. Rothe. The Complexity of Probabilistic Lobbying. *Discrete Optimization*, vol. 11 (2014), pp. 1–21.

J93 S. Bermudo and H. Fernau. Computing the differential of a graph: hardness, approximability and exact algorithms. *Discrete Applied Mathematics*, vol. 165 (2014), pp. 69–82.

J94 H. Fernau and D. Meister, Digraphs of bounded elimination width. *Discrete Applied Mathematics*, vol. 168 (2014), pp. 78–87.

J95 D. Binkele-Raible and H. Fernau. A Parameterized Measure & Conquer Analysis for Finding a k-Leaf Spanning Tree in an Undirected Graph. *Discrete Mathematics and Theoretical Computer Science*, vol. 16 (2014), pp. 179–200.

J96 S. Bermudo, H. Fernau and J. M. Sigarreta. The differential and the Roman domination number of a graph. *Applicable Analysis and Discrete Mathematics*, vol. 8 (2014), pp. 155–171.

J97 H. Fernau and J. A. Rodríguez-Velázquez. Alliances and related parameters in graphs. *Electronic Journal of Graph Theory and Applications*, vol. 2 (2014), pp. 70–86.

J98 H. Fernau, F. V. Fomin, D. Lokshtanov, M. Mnich, G. Philip, and S. Saurabh. Social choice meets graph drawing: How to get subexponential time algorithms for ranking and drawing problems. *Tsinghua Science and Technology*, vol. 19, No. 4 (2014), pp. 374–386.

J99 H. Fernau, J. A. Rodríguez-Velázquez, and I. G. Yero. On the partition dimension of unicyclic graphs. *Bull. Math. Soc. Sci. Math. Roumanie*, vol. 57 (105), No. 4 (2014), pp. 381–391.

J100 S. Bermudo and H. Fernau. Combinatorics for Smaller Kernels: The Differential of a Graph. *Theoretical Computer Science*, vol. 562 (2015), pp. 330–345.

J101 H. Fernau, F. V. Fomin, G. Philip and S. Saurabh. On the Parameterized Complexity of Vertex Cover and Edge Cover with Connectivity Constraints. *Theoretical Computer Science*, vol. 565 (2015), pp. 1–15.

J102 H. Fernau, P. Heggernes and Y. Villanger. A multi-parameter analysis of hard problems on Deterministic Finite Automata. *Journal of Computer and System Sciences*, vol. 81 (2015), pp. 747–765.

J103 H. Fernau, P. Heggernes, P. van 't Hof, D. Meister and R. Saei. Computing the metric dimension for chain graphs. *Information Processing Letters*, vol. 115 (2015), pp. 671–676.

J104 H. Fernau and M. L. Schmid. Pattern matching with variables: a multivariate complexity analysis. *Information and Computation*, vol. 242 (2015), pp. 287–305.

J105 H. Fernau, A. López-Ortiz and J. Romero. Using parametric transformations toward polynomial kernels for packing problems allowing overlaps. *ACM Transactions on Computation Theory*, vol. 7 (2015), Article 13.

J106 H. Fernau, R. Freund, M. L. Schmid, K. G. Subramanian, and P. Wiederhold. Contextual Array Grammars and Array P Systems. *Annals of Mathematics and Artificial Intelligence*, vol. 75 (2015), pp. 5–26.

J107 J. A. Rodríguez, H. Fernau and J. M. Sigarreta. Powerful r-alliances and total k-domination in graphs. *Utilitas Mathematica*, vol. 98 (2015), pp. 127–147.

J108 H. Fernau, R. Freund, R. Siromoney and K. G. Subramanian. Regulated Contextual Array Grammars. *Annals of the University of Bucharest (Seria Informatica)*, vol. LXII (2015), pp. 63–78.

J109 H. Fernau, R. Freund and M. Holzer. The finite index restriction meets hybrid modes in cooperating distributed grammar systems. *International Journal of Foundations of Computer Science*, vol. 28 (2015), pp. 1167–1188.

J110 F. N. Abu-Khzam, C. Bazgan, M. Chopin, and H. Fernau. Data Reductions and Combinatorial Bounds for Improved Approximation Algorithms. *Journal of Computer and System Sciences*, vol. 82 (2016), pp. 503–520.

J111 K. Casel, A. Estrada-Moreno, H. Fernau and J. A. Rodríguez-Velázquez. Weak total resolvability in graphs. *Discussiones Mathematicae Graph Theory.* vol. 6 (2016), pp. 185–210.

J112 J. Björklund, H. Fernau and A. Kasprzik. Polynomial inference of universal automata from membership and equivalence queries. *Information and Computation*, vol. 246 (2016), pp. 3–19.

J113 H. Fernau, M. L. Schmid and Y. Villanger. On the Parameterised Complexity of String Morphism Problems. *Theory of Computing Systems*, vol. 59 (2016), pp. 24–51.

J114 H. Fernau. An Essay on General Grammars. *Journal of Automata, Languages and Combinatorics*, vol. 21 (2016), pp. 69–92.

J115 H. Fernau and A. Krebs. Problems on Finite Automata and the Exponential Time Hypothesis. *Algorithms*, vol. 10 (2017), Art. No. 24.

J116 H. Fernau, M. Paramasivan, M. Schmid and V. Vorel. Characterization and Complexity Results on Jumping Finite Automata. *Theoretical Computer Science*, vol. 679 (2017), pp. 31–52.

J117 A. Alhazov, H. Fernau, R. Freund, S. Ivanov, R. Siromoney and K. G. Subramanian. Contextual Array Grammars with Matrix Control, Regular Control Languages, and Tissue P Systems Control. *Theoretical Computer Science*, vol. 682 (2017), pp. 5–21.

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Moreover, I had over a hundred talks and papers at national and international workshops and colloquia. I am happy to provide details on request.

Theses

- H. Fernau and D. Krafzig. *Spezielle Graphenabbildungen.* (Special Graph Mappings, in German) Studienarbeit, TU Braunschweig, 1988.
- H. Fernau. *Verallgemeinerungen k-limitierter Lindenmayer-Systeme.* (Generalization of k-limited Lindenmayer Systems, in German) Diplomarbeit (Master Thesis), TU Braunschweig, Braunschweig, July 1989.

- H. Fernau. *Varianten Iterierter Funktionensysteme und Methoden der Formalen Sprachen.* (Variants of Iterated Function Systems and Formal Language Methods, in German) Dissertation (PhD Thesis), Universität Karlsruhe (TH), February 1993.
- H. Fernau. *Parameterized Algorithmics: A Graph-Theoretic Approach.* Habilitationsschrift, Universität Tübingen, November 2005.

Moreover, I am author or coauthor of more than one hundred Technical Reports.

Teaching Experience

I have given over 50 different types of lectures, seminars etc., so I refrain from giving a complete list in what follows. I have taught at the Technological University of Karlsruhe, at the University of Tübingen, at the University of Applied Sciences at Worms, at the Technological University of Vienna, at the University of Newcastle, and at the University of Tarragona (Spain; PhD school project sponsored by the European Union), finally being appointed full professor at the University of Trier (Germany).

In Newcastle, I took over the supervision of one PhD student (Bradford Starkie) which is formally impossible with the positions I held in Germany before. Due to the fact of being later conjoint Lecturer at Newcastle, I continued supervising Brad. In December 2004, he submitted his thesis, which got accepted in 2005. At the University of Trier, I led the following (PhD / postdoc) projects. The numbers count successful PhD defenses.

2 Daniel (Binkele-)Raible defended his PhD thesis entitled *Amortized Analysis of Exponential Time- und Parameterized Algorithms: Measure & Conquer and Reference Search Trees* in May, 2010.

3 Stefan Gulan defended his PhD thesis entitled *On the Relative Descriptional Complexity of Regular Expressions and Finite Automata* in September, 2011.

4 Anna Kasprzik defended her PhD thesis entitled *Formal Tree Languages and Their Algorithmic Learnability* in February, 2012. Her work was mainly funded by Studienstiftung des Deutschen Volkes.

- Daniel Meister has successfully finished his habilitation project in December, 2013.

5 Meenakshi Paramasivan defended her PhD thesis entitled *Operations on Graphs, Arrays and Automata* in September, 2017. Her work was mainly funded by Deutscher Akademischer Austauschdienst DAAD. Later, she worked as a postdoc part-time.

6 Katrin Casel defended her PhD thesis entitled *Lower-Bounded Clustering - Models, Complexity and (Parameterised) Approximation* in March, 2018. Her work was mainly funded by Deutsche Forschungsgemeinschaft DFG.

- Markus L. Schmid finished working on his postdoc project in July 2019 and then moved to Berlin, with his own DFG grant money.
- Stefan Hoffmann started to work on his PhD project.
- Benjamin Gras started to work on his PhD project intended in a format called *co-tutelle*, together with the university of Orléans.

7 Petra Wolf defended her PhD thesis entitled *Generalized Synchronization and Intersection Non-Emptiness of Finite-State Automata* in January, 2022. Her work was mainly funded by Deutsche Forschungsgemeinschaft DFG.

- Kevin Mann started to work on his PhD project.
- Emmanuel Arrighi worked as a postdoc for half a year in 2023.

- Zhidan Feng started her PhD project, funded by CRC, the Chinese Research Council, co-supervised by Qi Xingqin from Shadong University, China.

I was (or am) also involved as an examiner or opponent within over twenty PhD (and habilitation) projects in Austria, Australia, Canada, the Chech Republic, Finland, France, Germany, India, Norway, Singapore, South Africa, Spain and Sweden.