

# Curriculum Vitae

## Professor Dr. Dieter Rautenbach



### Personal Information

Date of Birth: 18.06.1972 (Solingen, Germany)  
Social Status: married, no kids  
Nationality: German  
Languages: German, English, French, Italian, Portuguese

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D-99084 Erfurt  
Germany  
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### Education

1991 School Leaving Examination (“1.0”)  
10.1991-01.1996 Studies of Mathematics and Physics, RWTH Aachen  
08.1993 Prediploma in Mathematics, RWTH Aachen  
09.1993-03.1994 Studies of Mathematics, Perugia, Italy  
08.1994 Prediploma in Physics, RWTH Aachen  
01.1996 Diploma in Mathematics (“with distinction”), RWTH Aachen  
05.1998 PhD in Mathematics (“summa cum laude”), RWTH Aachen  
03.2002 Habilitation in Mathematics, RWTH Aachen

## Grants and Awards

11.1991-01.1996	Student Grant of the Studienstiftung des Deutschen Volkes
06.1996	Award of the Springorum Denkmünze, RWTH Aachen
01.1998-05.1998	PhD Grant of the Studienstiftung des Deutschen Volkes
04.1999-09.1999	Postdoc Grant of the Deutsche Forschungsgemeinschaft (DFG)
07.1999	Award of the Borchers Plakette, RWTH Aachen
10.1999-09.2000	Donet Postdoc Grant of the European Union
10.2000-12.2000	Postdoc Grant of the Deutsche Forschungsgemeinschaft (DFG)
01.2009	Guest Researcher Grant of CNPQ (not used)

## Employment

09.1992-01.1996	Student Assistant, Lehrstuhl A für Mathematik (Analysis) and Lehrstuhl II für Mathematik (Mathematik für Ingenieure), RWTH Aachen
01.1996-03.1999	Teaching Assistant, Lehrstuhl II für Mathematik, RWTH Aachen
01.2001-05.2003	Scientific Assistant, Lehrstuhl II für Mathematik, RWTH Aachen
05.2003-08.2006	Professor for Mathematics (C3), Forschungsinstitut für Diskrete Mathematik, Universität Bonn
since 09.2006	Professor for Mathematics (W3), Institut für Mathematik, TU Ilmenau

## Research Stays

02.1999-07.1999	Université Paris Sud, France
09.1999-10.1999	Université de Montpellier II, France
11.1999-12.1999	Princeton University, USA
02.2000-07.2000	McGill University, Montreal, Canada
10.2002-12.2002	DIMACS, Rutgers University, USA
12.2008-03.2009	Universidade Federal do Rio de Janeiro, Brazil

## Conferences and Workshops

- 11.1996 Kolloquium über Kombinatorik 1996, Braunschweig, Germany  
“Some Structural Results on Linear Arboricity”
- 05.1997 5th Twente Workshop on Graphs and Combinatorial Optimization, Netherlands  
“Finding upper bounds on the strong domination number”
- 07.1997 16th British Combinatorial Conference  
“The influence of special vertices on the strong domination”
- 11.1997 Kolloquium über Kombinatorik 1997, Braunschweig, Germany  
“On the differences between the upper irredundance, upper domination and independence numbers of a graph”
- 07.1998 5th Czech-Slovak International Symposium on Combinatorics, Graph Theory, Algorithms and Applications  
“A linear Vizing-like relation between the size and the domination number of a graph”
- 11.1998 Kolloquium über Kombinatorik 1998, Braunschweig, Germany  
“Perfect Graphs of Strong Domination and Independent Strong Domination”
- 06.1999 Workshop on Probabilistic Algorithms, Kiel, Germany
- 07.1999 17th British Combinatorial Conference  
“On vertex orderings and the stability number in triangle-free graphs”
- 10.1999 Oberwolfach Tagung “Graphentheorie”  
“Covering and Packing of odd cycles in graphs of large connectivity”
- 11.1999 DIMACS Workshop on Probabilistic Analysis of Algorithms for Hard Problems
- 05.2000 The 2000 CIRM-Donet Workshop on Graph Theory, Levico, Italy
- 08.2000 International Conference on Graph Theory, Marseille, France  
“Some Results on Graph Parameters in Weighted Graphs”
- 09.2000 Jahrestagung 2000 der Deutschen Mathematiker Vereinigung, Dresden, Germany  
“Rekonstruktion unendlicher Mengen”
- 09.2000 Donet Workshop on Combinatorial Optimization, Bonn, Germany
- 10.2000 Investing in Europe’s Human Research Potential, Crete
- 11.2000 Kolloquium über Kombinatorik 2000, Braunschweig, Germany  
“Approximately covering by cycles in a planar graph”

- 01.2001 Twelfth annual ACM-SIAM Symposium on Discrete Algorithms, Washington, DC, USA  
 “Approximately Covering by Cycles in Planar Graphs”
- 03.2001 Cimpa School on Algorithms and Combinatorics, Fortaleza, Brasil
- 03.2001 Graco 2001, Brazilian Symposium on Graphs, Algorithms and Combinatorics, Fortaleza, Brasil
- 11.2001 Kolloquium über Kombinatorik 2001, Braunschweig, Germany  
 “Some combinatorial reconstruction problems”
- 04.2002 Workshop on Graph Invariants in Chemistry, Bielefeld, Germany  
 “The relation between the Hosoya index and the Merrifield-Simmons index”
- 09.2002 4th Cracow Conference of Graph Theory, Poland  
 “Relations between local and global irregularities of graphs”
- 12.2002 Oberwolfach Tagung “Algorithmische Graphentheorie
- 03.2003 7th Combinatorial Optimization Workshop, Aussois, France  
 “On the band-, tree- and clique-width of graphs with bounded vertex degree”
- 08.2003 18th International Symposium on Mathematical Programming, Copenhagen, Denmark  
 “Some remarks on statistical timing”
- 01.2004 Erster Aachener Tag der Graphentheorie, Germany  
 “Some work on chemical descriptors”
- 05.2004 Dagstuhl Seminar “Robust and Approximative Algorithms on Particular Graph Classes”  
 “The Relative Clique-Width of a Graph”
- 01.2005 Oberwolfach Tagung “Graphentheorie”
- 06.2005 4th Japanese-Hungarian Symposium on Discrete Mathematics and Its Applications, Budapest, Hungary  
 “Dominating and Large Induced Trees in Regular Graphs”
- 06.2005 Japan Workshop on Graph Theory and Combinatorics 2005, Yokohama, Japan  
 “Some Extremal Problems for  $K_3$ -Free Graphs”
- 01.2006 10th Combinatorial Optimization Workshop, Aussois, France  
 “Logic Optimization in VLSI Design”
- 02.2006 Oberwolfach Tagung “Algorithmische Graphentheorie”  
 “Large Induced Forests in  $C_3$ - and  $C_4$ -free Graphs of Maximum Degree at most 3”

- 06.2006 45th Session of the NATO Advanced Study Institute, Montréal, Canada  
(five 1h lectures on VLSI Design, Repeater Trees, Logic Optimization,  
Gate Sizing, VT Level Assignment)
- 06.2006 SIAM Conference on Discrete Mathematics, Victoria, Canada  
“Exact Leaf Powers and Distance-Hereditary 5-Leaf Powers”
- 07.2006 19th International Symposium on Mathematical Programming, Rio de  
Janeiro, Brasil  
“Repeater Trees in VLSI Design”
- 09.2006 Optimal Discrete Structures and Algorithms (ODSA 2006), Rostock,  
Germany  
“Distance-Hereditary 5-Leaf Powers”
- 09.2006 5th Cracow Conference of Graph Theory, Ustron, Poland  
“A Conjecture of Borodin and a Coloring of  $Gr$ ”unbaum”
- 09.2006 Jahrestagung 2006 der Deutschen Mathematiker Vereinigung, Bonn, Ger-  
many  
“Beyond Acyclic Colorings”
- 11.2006 Kolloquium über Kombinatorik 2006, Magdeburg, Germany  
“A Generalization of Dijkstra’s Shortest Paths Algorithm with Applica-  
tions to VLSI routing”
- 12.2006 Freiburger Graphentheoretage 2006, Freiberg, Germany  
“Domination in Graphs of Minimum Degree at least Two and large  
Girth”
- 03.2007 Conference on Graph Theory on the Occasion of the 80th Birthday of  
Professor Horst Sachs, Ilmenau, Germany  
(Laudatio)
- 05.2007 11th C5 Graph Theory Workshop, Rathen, Germany  
“Network Reliability - Network Sharing Parts of Desired Sizes in Graphs”
- 05.2007 Dagstuhl Seminar “Exact, Approximative, Robust and Certifying Algo-  
rithms on Particular Graph Classes”  
“Network Reliability - Network Sharing Parts of Desired Sizes in Graphs”
- 07.2007 6th International Congress on Industrial and Applied Mathematics,  
ICIAM 2007, Zurich, Switzerland  
“Factoring Boolean Functions and Low Readability”
- 07.2007 Optimization 2007, Porto, Portugal  
“On  $F$ -independence in Graphs”

- 09.2007 16th Workshop on Cycles and Colourings (C&C), High Tatras, Slovakia  
“Coloring and Distinguishing Labellings” (50 min invited lecture)
- 09.2007 12th Workshop on Colouring, Independence and Domination (CID),  
Karpacz, Poland  
“Recent Results on Domination and Related Parameters in Regular  
Graphs of Large Girth” (1 h invited lecture)
- 12.2007 Graph Theory 2007, Fredericia, Denmark  
“Locally Dense Independent Sets in Regular Graphs of Large Girth”
- 03.2008 Graphentheorie-Workshop, Heyda, Germany  
(Member of Organizing Committee)
- 05.2008 12th C5 Graph Theory Workshop, Rathen, Germany  
“Edge-Injective and Edge-Surjective Vertex Labellings”
- 08.2008 Graph Theory at Sandbjerg Manor, Denmark  
“Edge-Injective and Edge-Surjective Vertex Labellings”
- 09.2008 Hereditarnia Workshop, Vezprem, Hungary  
“Edge-Injective and Edge-Surjective Vertex Labellings”
- 09.2008 16th Workshop on Cycles and Colourings (C&C), High Tatras, Slovakia  
“Cycle Length Parities and the Chromatic Number”
- 09.2008 Workshop on Graph Minors, Banff, Canada
- 11.2008 Bonn Workshop on Combinatorial Optimization, Bonn, Germany  
“Locally Dense Independent Sets in Regular Graphs of Large Girth”
- 12.2008 Freiburger Graphentheoretage 2008, Freiberg, Germany  
“Packing cycles in Graphs”
- 03.2009 Third International Conference on Combinatorics, Graph Theory and  
Applications, Elgersburg, Germany (Organizer)
- 04.2009 Spring School on Mathematics of Chip Design, Hangzhou, China, (Main  
Lecturer)
- 05.2009 13th C5 Graph Theory Workshop, Rathen, Germany  
“Long Cycles and Paths in Distance Graphs”