

CURRICULUM VITAE

THOMAS GÜNTHER STÜTZLE

CONTACT DATA

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POST-SECONDARY EDUCATION

Habilitation Darmstadt University of Technology, Germany, 2004.
Computer Science *Referees:* Prof. Wolfgang Bibel, Prof. Hartmut Schneck
Title: “Part 1: Stochastic Local Search — Foundations and Applications,
Part 2: Ant Colony Optimization.”.

Dr. rer. nat. Darmstadt University of Technology, Germany, 1998.
Computer Science *Supervisor:* Prof. Wolfgang Bibel
Title: “Local Search Algorithms for Combinatorial Problems — Analysis, Im-
provements, and New Applications”.

M.S. Universität Karlsruhe (TH), Karlsruhe, Germany, 1994.
Business Engineering *Supervisor:* Prof. Georg Bol
Diploma thesis: “A comparison of Neural Networks to Quality Control Charts
without Memory”.

EMPLOYMENT RECORD

- 10/2005 - today** Research Associate of the Belgian FNRS at IRIDIA, CoDE, Faculty of Applied Sciences, Université Libre de Bruxelles.
- 10/2002 - 9/2005** Assistant Professor (Wissenschaftlicher Assistent, C1) at the Intellectics Group, Department of Computer Science, Darmstadt University of Technology.
- 4/2002 - 9/2002** Invited, temporary Professor position (C3) at the Department of Computer Science, Darmstadt University of Technology.
- 7/2000 - 3/2002** Assistant Professor (Wissenschaftlicher Assistent, C1) at the Intellectics Group, Department of Computer Science, Darmstadt University of Technology.
- 3/2000 - 7/2000** Research Assistant (Wissenschaftlicher Mitarbeiter, BAT2) at the Intellectics Group, Department of Computer Science, Darmstadt University of Technology.
- 12/1998 - 2/2000** Researcher at the *Institut de Recherches Interdisciplinaires et de Développements en Intelligence Artificielle* (IRIDIA), Université Libre de Bruxelles, Belgium.
- 7/1998 - 11/1998** Research Assistant (Wissenschaftlicher Mitarbeiter, BAT2) at the Intellectics Group, Department of Computer Science, Darmstadt University of Technology.
- 7/1995 - 6/1998** Member of the “Graduiertenkolleg ISIA” (Intelligent Systems for Information and Automation Technologies) pursuing PhD studies at the Intellectics Group, Department of Computer Science, Darmstadt University of Technology.
- 11/1994 - 6/1995** Post-graduate fellow at the Department of Statistics and Operations Research, Universidad Complutense de Madrid, Spain.
- 10/1989 - 11/1994** Graduate Studies in Business Engineering at the University of Karlsruhe. During that time, from 10/1992- 6/1993, studies at the Faculty of Mathematics and the Faculty of Economic Sciences, “Universidad Complutense de Madrid”, Spain; these studies were financed by a fellowship from the German Academic Exchange Office (DAAD).

ACADEMIC AWARDS

- 12/1998 – 2/2000** Marie Curie Fellowship awarded by the European Commission for studies at IRIDIA, Université Libre de Bruxelles, Brussels, Belgium.
- 7/1995 – 6/1998** Fellowship awarded by the Deutsche Forschungsgemeinschaft (German Research Foundation) via “Graduiertenkolleg ISIA” at TU Darmstadt.
- 10/1994 – 6/1995** Fellowship awarded by the Spanish Ministry of Foreign Affairs for post-graduate studies at the Department of Statistics and Operations Research, Faculty of Mathematics, “Universidad Complutense de Madrid” (Spain).

10/1992 – 6/1993

Fellowship awarded by the German Academic Exchange Office (DAAD) for studies at the “Universidad Complutense de Madrid” (Spain) at the Mathematics Department and the Economic Sciences Department.

BEST PAPER AWARDS

GECCO, 2011

The paper *An Incremental Ant Colony Algorithm with Local Search for Continuous Optimization*, co-authored with Tianjun Liao, Marco Montes de Oca, Dogan Aidin, and Marco Dorigo, has received the best paper award of the Ant Colony Optimization and Swarm Intelligence track at the GECCO 2011 conference, Dublin, Ireland, 2011 (publication **IC.85**).

GECCO, 2010

The paper *The Impact of Design Choices of Multiobjective Ant Colony Optimization Algorithms on Performance: An Experimental Study on the Biobjective TSP*, co-authored with Manuel López-Ibáñez, has received the best paper award of the Ant Colony Optimization and Swarm Intelligence track at the GECCO 2010 conference, Portland, Oregon, 2010 (publication **IC.74**).

LION 4, 2010

The paper *Adaptive “Anytime” Two-Phase Local Search*, co-authored with Jérémie Dubois-Lacoste and Manuel López-Ibáñez, has received the best paper award of the LION 4 conference, Venice, Italy, 2010 (publication **IC.71**).

ANTS 2006

The paper *PLANTS: Application of Ant Colony Optimization to Structure-Based Drug Design*, co-authored with Oliver Korb and Thomas Exner, has received the best paper award of the ANTS’2006 workshop (publication **IC.47**).

EvoCOP 2002

The paper *An Experimental Investigation of Iterated Local Search for Coloring Graphs*, co-authored with Luis Paquete, has received the best paper award of the EvoCOP’02 workshop (publication **IC.17**).

LANGUAGES

German

Mother tongue

English

Fluent written and spoken

Spanish

Fluent written and spoken

French

Basic knowledge

PERSONAL DATA

Date and place of birth

December 13, 1968, in Donauwörth, Germany

Citizenship

German

Marital status

Married, two sons

RESEARCH PROJECTS

- **META-X:** This is an “Action de Recherche Concertée (ARC)” research project on *META-X: Metaheuristics for Complex Optimization Problems*, which runs from October 2008 to September 2013. I am a principal researcher of this project.
Contribution **650.000 Euro**
- **FRFC project** on *Hybrid Search Methods for Complex Problems*: This is a joint “FRFC” research project with the *BeCool* research group at Université catholique de Louvain, which runs from January 2010 to December 2013. Associated to this project is a two year post-doctoral fellowship for a post-doctoral researcher in mobility.
Contribution **109.000 Euro**
- **Algorithms and models for the genomic median problem:** This project is financed through a FRIA fellowship (October 2007 to max. September 2011) awarded to Renaud Lenne for pursuing his doctoral studies. I am the main supervisor of Renaud Lenne and collaborating in this project with Christine Solnon (Université Lyon 1, France) and Eric Tannier (INRIA Rhône-Alpes, LBBE, France).
FRIA Contribution **per year ca. 30.000 Euro**
- **Automatic Tuning of Stochastic Local Search Algorithms:** This project is financed through a FNRS Aspirant fellowship (October 2008 to September 2009) awarded to Zhi (Eric) Yuan for pursuing his doctoral studies.
F.R.S.-FNRS Contribution **per year ca. 30.000 Euro**
- **COMP2SYS: COMPUTational Intelligence methods for COMPLEX SYSTEMS:** After I joined IRIDIA in 2005, I collaborated in the COMP2SYS Early Stage Training project (from April 2004 to March 2008), which was funded by the EU Marie Curie Activities programme. In this project, I supervised three doctoral students: Prasanna Balaprakash, Max Manfrin, and Zhi Yuan.
- **Metaheuristics Network:** The Metaheuristics Network is an EU Research and Training Network, which started in September 2000 and ended in August 2004. I was local co-ordinator of the Metaheuristics Network at the Intellectics Group, Darmstadt University of Technology. In this position I have guided the doctoral research of four PhD students (Matthijs den Besten, Marco Chiarandini, Luis Paquete, and Tommaso Schiavinotto) and advised two visiting PhD students (Mauro Birratari–1 year visitor–and Marco Pranzo–6 month visitor) who were all financed from the Metaheuristics Network.
EU contribution **240.000 Euro**
- **Acções Integradas Luso-Alemãs/DAAD-GRICES, Portugal:** Joint DAAD–GRICES project from 2003 to 2004 on the unification of the run-time and solution-quality views of optimiser performance. The Portuguese partner was Prof. Carlos Fonseca, University of Algarve, Faro.
DAAD contribution **6.000 Euro**
- **Host of Marie Curie Fellow:** I was the research director of Dr. Irina Dumitrescu, a Marie Curie Fellow at the Intellectics Group. Dr. Dumitrescu was working on the project “Local Search and Integer Programming–Hybrid Methods,” from February 2002 to January 2004.
EU contribution **140.200 Euro**

- **CARPOOL:** The CARPOOL project from 2001 to 2002 was a joint DAAD-Vigoni research project studying metaheuristics applied to the long term car pooling problem. The Italian partner was Prof. Vittorio Maniezzo, University of Bologna, Sede di Cesena.

DAAD contribution

8.000 Euro

PROFESSIONAL ACTIVITIES

EDITORIAL WORK

Associate editor

- Computational Intelligence
- Mathware & Soft Computing

Member of editorial board

- European Journal of Industrial Engineering
- Evolutionary Computation
- International Journal of Applied Metaheuristic Computing
- Soft Computing
- Swarm Intelligence

Journal special issues

- I have co-edited six journal special issues. One additional special issue is currently close to completion. A full list of the edited special issues is given in items **JSI.5** to **JSI.1** in my publication list.

Books and proceedings

- I have co-edited a total of 16 books, proceedings of international conferences, and proceedings of workshops. A full list of this editorial work is given in item **EBP.16** to **EBP.1** in my publication list.

ORGANIZATION

Conferences and Workshops

- Local Organization Chair for the Seventh International Conference on Swarm Intelligence (ANTS 2010), Brussels, Belgium, September 2010.
- Co-chair for Engineering Stochastic Local Search Algorithms—Designing, Implementing and Analyzing Effective Heuristics (SLS 2009), Brussels, Belgium, September 2009.
- Co-chair of the track on Ant Colony Optimization and Swarm Intelligence at GECCO'2009, Montreal, Canada, 2009.
- Technical Program Committee Chair for Learning and Intelligent OptimizatiON (LION3), Trento, Italy, January 2009.
- Publicity chair for the Sixth International Conference on Ant Colony Optimization and Swarm Intelligence (ANTS 2008), Brussels, Belgium, September 2008.

- Co-chair for Engineering Stochastic Local Search Algorithms—Designing, Implementing and Analyzing Effective Heuristics (SLS 2007), Brussels, Belgium, September 2007.
- Co-chair of the track on Ant Colony Optimization, Swarm Intelligence, and Artificial Immune Systems at GECCO'2007, London, UK, 2007.
- Programme Co-chair for the Fifth International Workshop on Ant Colony Optimization and Swarm Intelligence (ANTS'2006), Brussels, Belgium, 2006.
- Programme Co-chair for the Fourth International Workshop on Ant Colony Optimization and Swarm Intelligence (ANTS'2004), Brussels, Belgium, 2004.
- IJCAI-03 Workshop on Stochastic Search Algorithms. Acapulco, Mexico August , 2003 (together with Holger Hoos).
- IJCAI-01 Workshop on Stochastic Search Algorithms. Seattle, USA August 6, 2001 (together with Holger Hoos).
- IJCAI-01 Workshop on Empirical Methods in Artificial Intelligence. Seattle, USA, August 4, 2001 (together with Holger Hoos).
- ECAI'00 Workshop on Empirical Methods in Artificial Intelligence, Berlin, Germany. August 22, 2000 (together with Holger Hoos).

Summerschools

- International Summer School on Metaheuristics, Tenerife, Spain, March 2003. (together with Marco Dorigo).

PROGRAM COMMITTEES

- 2012**
- EvoCOP 2012, 12th European Conference on Evolutionary Computation in Combinatorial Optimization, Málaga, Spain.
 - ICAART 2012, 4th International Conference on Agents and Artificial Intelligence, Vilamoura, Portugal.
 - ICORES 2012, 1st International Conference on Operations Research and Enterprise Systems, Vilamoura, Portugal.
 - LION 6, Learning and Intelligent Optimization 2012, Paris, France.
 - MAEB-2012, VIII Congreso Español de Metaheurísticas y Algoritmos Evolutivos y Bioinspirados, Albacete, España.
 - Matheuristics 2012, Fourth International Workshop on Model-Based Metaheuristics, Angra dos Reis, Brazil.
 - META'2012, International Conference on Metaheuristics and Nature Inspired Computing, Port El Kantaoui, Tunisia.
 - PPSN 2012, 12th International Conference on Parallel Problem Solving From Nature, Taormina, Italy.
 - VNS 2012, 2nd International Conference on Variable Neighborhood Search, Herceg Novi, Montenegro.
- 2011**
- BNAIC 2011, 23rd Benelux Conference on Artificial Intelligence, Ghent, Belgium.

- CAEPIA'11, 14th Conference of the Spanish Association for Artificial Intelligence, Tenerife, La Laguna, Spain.
 - GECCO 2011, Genetic and Evolutionary Computation Conference, Dublin, Ireland.
 - EA 2011, 10th Biannual International Conference on Artificial Evolution, Angers, France.
 - EPIA 2011, 15th Portuguese Conference on Artificial Intelligence, Lisbon, Portugal.
 - EvoCOP 2011, Eleventh European Conference on Evolutionary Computation in Combinatorial Optimization, Turin, Italy.
 - FedCSIS, 6th International Symposium on Advances in Artificial Intelligence and Applications, Szczecin, Poland.
 - IEEE CEC 2011, 2011 IEEE Congress on Evolutionary Computation, New Orleans, USA.
 - ICTAI 2011, 23rd IEEE International Conference on Tools with Artificial Intelligence, Boca Raton, FL, USA, November 2011.
 - LION 5, Learning and Intelligent OptimizatiON, Rome, Italy, January 2011.
 - LSCS 2011, 8th Workshop on Local Search Techniques in Constraint Satisfaction, Perugia, Italy.
 - PDCN 2011, IASTED International Conference on Parallel and Distributed Computing and Networks, February 2011, Marina del Rey, USA.
 - PDCS 2011, International Conference on Parallel and Distributed Computing and Systems, Dallas, USA.
 - SIS 2011, 2011 IEEE Swarm Intelligence Symposium, Paris, France, April 2011.
- 2010**
- SEA 2010, 9th International Symposium on Experimental Algorithms, Ischia Island, Italy, 2010.
 - LION 4, Learning and Intelligent OptimizatiON, Venice, Italy, January 2010.
 - PPSN 2010, 11th International Conference on Parallel Problem Solving From Nature, Krakow, Poland.
 - GECCO 2010, Genetic and Evolutionary Computation Conference, Portland, Oregon, USA.
 - CEC 2010, IEEE Congress on Evolutionary Computation, Barcelona, Spain.
 - EvoCOP 2010, Tenth European Conference on Evolutionary Computation in Combinatorial Optimization, Istanbul, Turkey.
 - HM 2010, 7th International Workshop on Hybrid Metaheuristics, Vienna, Austria.
 - LSCS 2010, 7th Workshop on Local Search Techniques in Constraint Satisfaction, St Andrews, Scotland.
 - ICTAI 2010, 22nd IEEE International Conference on Tools with Artificial Intelligence (ICTAI-2010), Arras, France.
 - IEA/AIE 2010, International Conference on Industrial, Engineering & Other Applications of Applied Intelligent Systems, June 2010, Córdoba, Spain.
 - ICAART 2010, 2nd International Conference on Agents and Artificial Intelligence, January 2010, Valencia, Spain
 - ISAIM, 11th International Symposium on Artificial Intelligence and Mathematics, January 2010, Ft. Lauderdale, Florida
 - IASTED International Conference on Parallel and Distributed Computing and Networks (PDCN 2010), Innsbruck, Austria.

- IPMU-2010, 13th International Conference on Information Processing and Management of Uncertainty in Knowledge-Based Systems, Dortmund, Germany.
 - NatComp'2010, Workshop on Nature Inspired Computing, May 2010, Hammamet, Tunisia.
 - Workshop of Computational Optimization (WCO'10, held in conjunction with IMCSIT 2010), Karpacz, Poland.
- 2009**
- MIC 2009, Metaheuristics International Conference, Hamburg, Germany.
 - EvoCOP 2009, Ninth European Conference on Evolutionary Computation in Combinatorial Optimization, Tübingen, Germany.
 - HM 2009, 6th International Workshop on Hybrid Metaheuristics, Udine, Italy.
 - GECCO 2009, Genetic and Evolutionary Computation Conference, Montreal, Canada.
 - Learning from Failures in Evolutionary Computation Workshop at GECCO 2009, Montreal, Canada.
 - ICAPS 2009, International Conference on Automated Planning and Scheduling, Thessaloniki, Greece.
 - SIS 2009, IEEE Swarm Intelligence Symposium, Nashville, Tennessee, USA.
 - EMO 2009, Evolutionary Multiobjective Conference, Nantes, France.
 - CEC 2009, IEEE Congress on Evolutionary Computation, Trondheim, Norway.
 - LSCS 2009, Sixth International Workshop on Local Search Techniques in Constraint Satisfaction, Lisbon, Portugal.
 - Hybrid Metaheuristics and Their Applications, Workshop held at the Ninth International Conference on Intelligent Systems Design and Applications, Pisa, Italy, 2009.
 - Taller sobre Metaheurísticas Inteligentes en la Planificación Logística, Workshop of CAEPIA-TTIA 2009. Sevilla, Spain.
 - JCC 2009, First Workshop on Emergent Computing, Chile.
- 2008**
- HM 2008, 5th International Workshop on Hybrid Metaheuristics, Málaga, Spain.
 - WEA 2008, 7th International Workshop on Experimental Algorithms, Provincetown (Cape Cod), MA, USA.
 - WCCI 2008, 2008 IEEE World Congress on Computational Intelligence—IEEE Congress on Evolutionary Computation (CEC), Hong Kong, China.
 - ISAIM 2008, Tenth International Symposium on Artificial Intelligence and Mathematics, Fort Lauderdale, Florida, USA.
 - EvoCOP 2008, Eight European Conference on Evolutionary Computation in Combinatorial Optimization, Napels, Italy.
 - PPSN 2008, 10th International Conference on Parallel Problem Solving From Nature, Dortmund, Germany.
 - GWAL-8, 8th German Workshop on Artificial Life, Leipzig, Germany.
 - LSCS 2008, Fifth International Workshop on Local Search Techniques in Constraint Satisfaction, Sydney, Australia.
 - WAI 2008, Sixth Workshop de Inteligencia Artificial (WAI), Punta Arenas, Chile
 - META 2008, International Conference on Metaheuristics and Nature Inspired Computing, Hammamet, Tunisia.

- Matheuristics 2008, Bertinoro, Italy.
- 2007**
- MIC 2007, Metaheuristics International Conference, Montral, Canada.
 - WEA 2007, 6th International Workshop on Experimental Algorithms, Rome, Italy.
 - HM 2007, 4th International Workshop on Hybrid Metaheuristics, Dortmund, Germany.
 - EA 2007, 8th International Conference on Artificial Evolution 2007, Tours, France.
 - SIS 2007, 2007 IEEE Swarm Intelligence Symposium, Honoloulu, USA.
 - LION 2, Learning and Intelligent OptimizatioN, Andalo (Trento), Italy; February 2007.
 - LION 2007bis, Learning and Intelligent OptimizatioN, Andalo (Trento), Italy; December 2007.
 - EvoCOP 2007, Seventh European Conference on Evolutionary Computation in Combinatorial Optimization, Valencia, Spain.
 - EMO 2007, Evolutionary Multi-Criterion Optimization, Matsushima, Japan.
 - MICA I 2007, 6th Mexican International Conference on Artificial Intelligence, Aguascalientes, Mexico, 2007.
 - AGRO 2007, Special session of the 2007 IEEE Congress on Evolutionary Computation, Singapore.
 - LSCS 2007, Fourth International Workshop on Local Search Techniques in Constraint Satisfaction, Providence, RI, September 2007.
 - Chilean Workshop on AI, Iquique, Chile; November 2007.
- 2006**
- HM 2006 - Third International Workshop on Hybrid Metaheuristics, Gran Canaria, Spain.
 - GECCO 2006, Genetic and Evolutionary Computation Conference 2006, Seattle, USA.
 - EvoCOP 2006, Sixth European Conference on Evolutionary Computation in Combinatorial Optimization, Budapest, Hungary, 2006.
 - MICA I 2006, 5th Mexican International Conference on Artificial Intelligence, Apizaco, Mexico, 2006.
 - Parallel Problem Solving from Nature (PPSN'2006), Reykjavik, Island, 2006.
 - Workshop on Empirical Methods for the Analysis of Algorithms (EMAA'06), Reykjavik, Iceland, 2006.
 - LSCS 2006, Third International Workshop on Local Search Techniques in Constraint Satisfaction, Nantes, France, 2006.
 - EvoOpt 2006, a special track of The 19th International FLAIRS Conference, Melbourne Beach, USA, 2006.
 - First International Symposium on Nature-Inspired Systems for Parallel, Asynchronous and Decentralised Environments, Bristol, England, 2006.
- 2005**
- Metaheuristics International Conference 2005 (MIC'05), Wien, Österreich.
 - EURO Operational Research Peripatetic Post-graduate Programme 2005 (ORP3'05), Valencia, Spanien.
 - Genetic and Evolutionary Computation Conference 2005 (GECCO'05), Washington D.C., USA.
 - SIS 2005, 2005 IEEE Swarm Intelligence Symposium, Pasadena, USA.

- 3rd International Conference on Evolutionary Multi-Criterion Optimization 2005 (EMO'05), Guanajuato, Mexico.
 - 7th International Conference on Artificial Evolution 2005 (EA'05), Lille, France.
 - Second International Workshop on Hybrid Metaheuristics, Barcelona, Spain, 2005.
 - Fifth European Conference on Evolutionary Computation in Combinatorial Optimization, Lausanne, Swiss, 2005.
- 2004**
- Parallel Problem Solving from Nature (PPSN'2004), Birmingham, UK, 2004.
 - Genetic and Evolutionary Computation Conference, 2004 (GECCO'04), Seattle, USA.
 - 2nd Starting AI Researchers Symposium, STAIRS-2004 (collocated with ECAI-2004), Valencia, Spain, 2004
 - Mexican International Conference on Artificial Intelligence 2004 (MICAI'04), Mexico City, Mexico.
 - Fourth European Conference on Evolutionary Computation in Combinatorial Optimization, Coimbra, Portugal, 2004.
 - ECAI'04 Workshop on Hybrid Metaheuristics, Valencia, Spanien.
 - GECCO'04 Workshop on Hybrid Evolutionary Algorithms, Seattle, USA, 2004.
 - Tercer Congreso Español de Metaheurísticas, Algoritmos Evolutivos y Bioinspirados, Córdoba, Spain, 2004.
- 2003**
- GECCO'03 Workshop on Application of Hybrid Evolutionary Algorithms to NP-complete Problems, Chicago, Illinois, USA, 2003.
 - Seventh World Multi-Conference on Systemics, Cybernetics and Informatics (SCI'03), area on Operations Research, Tools & Applications, Orlando, Florida, USA, 2003.
 - Third European Workshop on Evolutionary Computation in Combinatorial Optimization, Essex, UK, 2003.
 - Segundo Congreso Español de Metaheurísticas, Algoritmos Evolutivos y Bioinspirados, Gijón, Spain, 2003.
- 2002**
- 12th International Conference in Computing CIC-2002, Mexico City, Mexico, 2002.
 - ANTS'2002 - From Ant Colonies to Artificial Ants: Third International Workshop on Ant Algorithms, Brussels, Belgium, 2002.
 - Genetic and Evolutionary Computation Conference, 2002 (GECCO'02).
 - The First International Joint Conference on Autonomous Agents & Multi-Agent Systems (AAMAS 2002), Bologna, Italy.
 - Mexican International Conference on Artificial Intelligence 2002 (MICAI'02), Yucatan, Mexico.
 - Second European Workshop on Evolutionary Computation in Combinatorial Optimization, Kinsale, Ireland, 2002.
- 2001**
- Genetic and Evolutionary Computation Conference, 2001 (GECCO'01).
 - First European Workshop on Evolutionary Computation in Combinatorial Optimization, Como, Italy, 2001.
 - SCCC'2001 Workshop on Advances & Trends in Artificial Intelligence for Problem Solving: ATAI, Punta Arenas, Chile.

- ECML'2001 Workshop on Machine Learning as Experimental Philosophy of Science, Freiburg, Germany.
- 2000**
 - SCCC'2000 Workshop on Advances & Trends in Artificial Intelligence for Problem Solving, Chile.
 - ANTS'2000 - From Ant Colonies to Artificial Ants: Second International Workshop on Ant Algorithms, Brussels, Belgium, 2000.
- 1998**
 - ANTS'1998 - From Ant Colonies to Artificial Ants: First International Workshop on Ant Colony Optimization, Brussels, Belgium, 1998.

TUTORIALS

- Tutorial on *Stochastic Local Search Algorithms: Design and Configuration* at the Evolutionary Algorithms summer school in Calais, France, June 2011.
- EMO 2009 Tutorial on *Ant Colony Optimization*, Nantes, France, April 2009.
- META 2008 Tutorial on *Towards Engineering Stochastic Local Search Algorithms*, Hammamet, Tunisia, October 2008.
- LION 2007 II Tutorial on *Engineering Stochastic Local Search Algorithms*, Trento, Italy, December 2007.
- TAAME–Theory And Applications of MEtaheuristics–tutorial day, Department of Engineering, KaHo Sint-Lieven. Tutorial on *Ant Colony Optimizaion*, Gent, Belgium, November 2007.
- CP-AI-OR 2007 master class lecture on *Ant Colony Optimization Applications to Scheduling Problems*, Brussels, Belgium, May 2007.
- ANTS 2006 Tutorial on *Introduction to Stochastic Local Search*, Brussels, Belgium, September 2006.
- MIC'05 Tutorial on *Iterated Local Search*, Vienna, Austria, July 2005.
- ORP3'05 Tutorial on *Stochastic Local Search Methods*, Valencia, Spain, 2005.
- AAAI'04 Tutorial on *Stochastic Local Search*, San Jose, CA, USA, 2004.
(together with Holger Hoos)
- IJCAI'03 Tutorial on *Stochastic Search Algorithms*, Acapulco, Mexico, August 2003.
(together with Holger Hoos)
- International Summer School on Metaheuristics, Tutorial on *Simulated Annealing, Dynamic Local Search, GRASP, and Iterated Greedy*, Tenerife, Spain, March 2003.
- International Summer School on Metaheuristics, Tutorial on *Iterated Local Search and Variable Neighbourhood Search*, Tenerife, Spain, March 2003.
- International Summer School on Metaheuristics, Tutorial on *Advanced Local Search*, Tenerife, Spain, March 2003. (together with Irina Dumitrescu)

- IJCAI'01 Tutorial on *Stochastic Search Algorithms*, Seattle, USA, August 2001.
(together with Holger Hoos)
- ECAI'00 Tutorial on *Stochastic Search Algorithms*, Berlin, Germany, August 2000.
(together with Holger Hoos)

REVIEWING ACTIVITIES

International Journals:

4OR, ACM Transactions on Autonomous and Adaptive Systems, AI Communciations, Annals of Operations Research, Artificial Intelligence, Central European Journal of Economics and Operations Research, Computación y Sistemas, Computational Optimization and Applications, Computers & Industrial Engineering, Computers & Operations Research, Control and Cybernetics, Discrete Applied Mathematics, European Journal of Industrial Engineering, European Journal of Operational Research, Evolutionary Computation, Future Generation Computer Systems, IEEE Transactions on Automation Science and Engineering, IEEE Transactions on Evolutionary Computation, IEEE Transactions on Systems, Man, and Cybernetics, INFORMS Journal on Computing, International Journal of Applied Mathematics and Computer Science, International Journal of Approximate Reasoning, International Journal of Metaheuristics, International Journal of Systems Science, International Transactions in Operational Research, Journal of Artificial Evolution and Applications, Journal of Automated Reasoning, Journal of Experimental Algorithms, Journal of Experimental & Theoretical Artificial Intelligence, Journal of Industrial and Management Optimization, Journal of Heuristics, Journal of Mathematical Modelling and Algorithms, Journal of the Operational Research Society, Machine Learning, Mathematical Methods of Operations Research, Multi-Agent and Grid Systems, OMEGA, Operations Research, Operations Research Letters, Optimization Methods and Software, Production Planning and Control, RAIRO – Operations Research – Recherche Opérationnelle, Soft Computing, Swarm Intelligence

International Conferences:

Conference on Automated Deduction, CADE (1998), Constraint Programming, CP (2007, 1997), International Joint Conference on Artificial Intelligence (2003, 2001), National Conference on Artificial Intelligence, AAAI (2002), European Conference on Artificial Intelligence, ECAI (2002, 2000), European Conference on Genetic Programming, EuroGP (2000), First Spanish Congress on Evolutionary and Bio-inspired Algorithms (AEB'02), German Conference on Artificial Intelligence, IEEE Multi-conference on Systems and Control (2009), KI (1998), Italian Conference on Theoretical Computer Science (2007), International Network Optimization Conference (2009), International Conference on Integration of Artificial Intelligence and Operations Research Techniques in Constraint Programming for Combinatorial Optimization Problems (2009), Metaheuristics International Conference, MIC (1999, 1997), Pacific Symposium on Biocomputing (2009)

BENCHMARK LIBRARIES

Together with Holger Hoos I created and maintained SATLIB, an online collection of benchmark instances and solvers for propositional satisfiability problems located at <http://www.satlib.org>.

MEMBERSHIP IN SCHOLARLY SOCIETIES

- Member of IEEE.
- Member of INFORMS.

TEACHING

COURSES

- *Heuristic Optimization* SS 2011, Université Libre de Bruxelles, 5 ECTS.
- *Heuristic Optimization* SS 2010, Université Libre de Bruxelles, 4 ECTS.
- *Heuristic Optimization* SS 2009, Université Libre de Bruxelles, 4 ECTS.
- *Stochastische lokale Suche* SS 2005, TU Darmstadt, (V2+Ü1).
- *Grundzüge der Informatik II* SS 2004, TU Darmstadt, (V4+Ü4).
- *Stochastische lokale Suche* WS 2003/04, TU Darmstadt, (V2+Ü1).
- *Stochastische lokale Suche* WS 2002/03, TU Darmstadt, (V2+Ü1).
- *Grundzüge der Informatik IV* SS 2002, TU Darmstadt, (V4+Ü2).
- *Lokale Suchverfahren und Metaheuristiken* WS 2001/02, TU Darmstadt, (V2+Ü1).
- *Grundzüge der Informatik II* SS 2001, TU Darmstadt, (V5+Ü4).
- *Einführung in die Programmierung mit Prolog* WS 2000/01, TU Darmstadt, (V2+Ü2).
- *Lokale Suchverfahren und Metaheuristiken* SS 2000, TU Darmstadt, (V2).

SEMINARS

- *KI-Technologien zur Verarbeitung natürlicher Sprache* SS 2003, TU Darmstadt, (S2).
- *Exakte Algorithmen und Lokale Suche: hybride Ansätze* WS 2002/03, TU Darmstadt, (S2).
- *Künstliche Intelligenz und Spiele* SS 2002, TU Darmstadt, (S2).

PRACTICAL COURSES

- *Lokale Suchverfahren* WS 2005/06, TU Darmstadt, (P4).
- *Lokale Suchverfahren* SS 2004, TU Darmstadt, (P4).
- *Lokale Suchverfahren* SS 2003, TU Darmstadt, (P4).

- *Lokale Suchverfahren* SS 2002, TU Darmstadt, (P3).
- *Planungssysteme* WS 2001/02, TU Darmstadt, (P3).
- *Lokale Suchverfahren* WS 2000/01, TU Darmstadt, (P3).
- *Lokale Suchverfahren* WS 1998/99, TU Darmstadt, (P3).

SUPERVISED POSTDOCS

- Franco Mascia. Postdoctoral researcher at IRIDIA from 01/2011.
- Manuel López-Ibáñez. Postdoctoral researcher at IRIDIA from 03/2009.
- Irina Dumitrescu. Marie Curie Fellow at the Intellectics Group from 2/2002 to 1/2004.

SUPERVISED PHD STUDENTS

- Romain Hendrickx. IRIDIA, Université Libre de Bruxelles, started September 2011.
- Jérémie Dubois-Lacoste. IRIDIA, Université Libre de Bruxelles, started October 2009.
- Zhi (Eric) Yuan. IRIDIA, Université Libre de Bruxelles, started November 2007.
- Mohamed Saifullah bin Hussin. IRIDIA, Université Libre de Bruxelles, started October 2006.
- Tommaso Schiavinotto. *Contributions to the Search Space Analysis of Combinatorial Optimization Problems*, TU Darmstadt.
- Marco Chiarandini. *Iterated Local Search for Constrained Optimization Problems*, TU Darmstadt, Germany, defended on July 8, 2005.
- Luis Paquete. *Metaheuristics for Multi-Objective Optimization Problems*, TU Darmstadt, defended on July 11, 2005.
- Matthijs den Besten. *Iterated Local Search and Variable Neighborhood Descent for Scheduling Problems: An Empirical Investigation*, TU Darmstadt, Germany, defended on October 6, 2004.

CO-SUPERVISED PHD STUDENTS

- Tianjun Liao. IRIDIA, Université Libre de Bruxelles, started November 2009.
- Stefan Eppe. CoDE-SMG, Université Libre de Bruxelles, started November 2008.

- Sabrina Oliveira. IRIDIA, Université Libre de Bruxelles, started November 2008.
- Marco Montes de Oca. *Incremental Social Learning in Swarm Intelligence Systems*. IRIDIA, Université Libre de Bruxelles, defended on July 1, 2011.
- Prasanna Balaprakash. *Estimation-based Metaheuristics for Stochastic Combinatorial Optimization: Case Studies in Stochastic Routing Problems*. Université Libre de Bruxelles, Belgium, defended on January 26, 2010.
- Max Manfrin. IRIDIA, Université Libre de Bruxelles. He stopped the PhD to take a position at the European Patent Office.
- Jodelson Sabino. *Otimização com colônia de formigas aplicada à programação de operações de locomotivas de manobras*, Pontifícia Universidade Católica do Rio de Janeiro, defended on March 31, 2008.

HOSTED GUEST RESEARCHERS AND PROFESSORS

- Andrea Roli. Guest researcher at IRIDIA from 10/2009 to 1/2010, supported by the Brains Back to Brussels programme.
- António Gaspar Lopes da Cunha. Guest researcher at IRIDIA in 5/2008.
- Holger H. Hoos. Guest researcher at IRIDIA in 9/2007.
- Ruben Ruiz. Guest researcher at IRIDIA from 12/2006 to 2/2007.
- Ruben Ruiz. Guest researcher at TU Darmstadt from 12/2004 to 2/2005.

SUPERVISED GUEST PHD STUDENTS

- Stefanie Kritzinger. Guest student from 3/2011 to 5/2011.
- Stefano Benedettini. Guest student from 10/2010 to 12/2010.
- Dogan Aydin. Guest student from 2/2010 to 9/2010.
- Franco Mascia. Guest student from 4/2010 to 7/2010.
- Sara Ceschia. Guest student from 1/2010 to 6/2010.
- Jessica Rivero Espinosa. Guest student from 9/2009 to 11/2009.
- Matteo Borotti. Guest student from 3/2009 to 7/2009.
- Colin Twomey. Guest student from 10/2008 to 6/2009.
- Francesco Sambo. Guest student from 10/2008 to 6/2009.

- Cristina Texeira. Guest student from 9/2008 to 11/2008.
- Fabio Rossi. Guest student from 6/2008 to 8/2008.
- Giacomo Di Tollo. Guest student from 1/2008 to 6/2008.
- Thijs Urlings. Guest student from 9/2007 to 11/2007.
- Marco Pranzo. Guest student from 1/2002 to 6/2002.
- Mauro Birratari. Guest student from 4/2001 to 3/2002.

HABILITATION COMMITTEE MEMBERSHIP

- Laetitia Jourdan. *Solving Scheduling Problems from High-Level Models*. Université de Lille 1, September 2010.

PHD COMMITTEE MEMBERSHIP

- Sebastien Moushuy. *Constraint-Based Very Large-Scale Neighborhood Search*. Université catholique de Louvain, Louvain-la-Neuve, Belgium, September 2011.
- Alexandre Campo. *On the design of self-organized decision making in robot swarms*. Université Libre de Bruxelles, Belgium, May 2011.
- Aykut Ozsoy. *An Integer Programming Approach to Layer Planning in Communication Networks*. Université Libre de Bruxelles, Belgium, May 2011.
- Matteo Borrotti. *An Evolutionary Approach to the Design of Experiments for Combinatorial Optimization with an Application to Enzyme Engineering*. Università di Bologna, Bologna, Italy, March 2011.
- Semya Elaoud. *Genetic & Exact Methods to Solve Multi-objective Optimization Problems*. Université de Mons, Belgium, February 2011.
- Álvaro Silvestre Fialho. *Adaptive Operator Selection for Optimization*. Université Paris-Sud 11, France, December 2010.
- Franco Mascia. *Analysis of Reactive Search Optimisation Techniques for the Maximum Clique Problem and Applications*. University of Trento, Italy, December 2010.
- Elisa Cilia. *Statistical and relational learning for understanding enzyme function*. University of Trento, Italy, December 2010.
- Paolo Campigotto. *A Reactive Search Optimization Approach to Interactive Decision Making*. University of Trento, Italy, December 2010.
- Madjid Khichane. *Optimisation sous contraintes par Intelligence Collective Auto-adaptive*. Université de Lyon 1, France, October 2010.

- Rehan O'Grady. *Morphologically responsive self-assembling robots*. Université Libre de Bruxelles, Belgium, September 2010.
- Jean-Noël Monette. *Solving Scheduling Problems from High-Level Models*. Université catholique de Louvain, May 2010.
- Thibaut Lust. *New Metaheuristics for Solving MOCO Problems: Application to the Knapsack Problem, the Traveling Salesman Problem and IMRT Optimization*. Université de Mons, Belgium, December 2009.
- Daniel Porumbel. *Algorithmes Heuristiques et Techniques d'Apprentissage—Applications au Problème de Coloration de Graphe*. Université de Angers, France, November 2009.
- Alexandru-Adrian Tantar. *Hybrid Parallel Metaheuristics for Molecular Docking on Computational Grids* Université de Lille 1, France, June 2009.
- Christophe Philemotte. *The Gestalt Heuristic: Dynamic and Online Meta-modeling as Improvement Method to the Metaheuristic Process*. Université Libre de Bruxelles, Belgium, December 2008.
- Shervin Nouyan. *Teamwork in a swarm of robots An experiment in search and retrieval*. Université Libre de Bruxelles, Belgium, September 2008.
- Anders L. Christensen. *Fault Detection in Autonomous Robots*. Université Libre de Bruxelles, Belgium, June 2008.
- Krzysztof Socha. *Ant Colony Optimization for Continuous and Mixed-Variable Domains*. Université Libre de Bruxelles, Belgium, May 2008.
- Magnus Agren. *Constraint-based local search*. Uppsala Universitet, Sweden. January 2008.
- David Mertens. *Building Acceptable Classification Models for Financial Engineering Applications*. Katholieke Universiteit Leuven, Belgium. January 2008.
- Enda Ridge. *Design of Experiments for Tuning Metaheuristics*. The University of York, UK, December 2007.
- Eva Vallada Regalado. *Secuenciación en talleres de flujo con fechas de entrega. Nuevos Métodos Metaheurísticos y Computación Paralela*, Universidad Politécnica de Valencia, Spain, April 2007.
- Thomas Halva Labella. *Division of Labour in Groups of Robots*, Université Libre de Bruxelles, Belgium, February 2007.
- Johan Parent. *Study of the Impact of Genotype Compression for Genetic Programming, an Application to Data Compression*, Vrije Universiteit Brussel, Belgium, September 2006.
- Anne Defaweux. *Evolutionary Transitions as a Metaphor for Compositional Search: Definition and Evaluation of a New Optimisation Algorithm*, Vrije Universiteit Brussel, Belgium, April 2006.
- Leonora Bianchi. *Ant Colony Optimization and Local Search for the Probabilistic Traveling Salesman Problem: A case Study in Stochastic Combinatorial Optimization*, Université Libre de Bruxelles, Belgium, July 2006.

EXTERNAL EXAMINER OF PHD THESES

- Steven Halim. *An Integrated White+Black Box Approach for Designing and Tuning Stochastic Local Search*, School of Computing, National University of Singapore, Singapore, 2009.
- Yiliang Xu. *Meta-Heuristic Algorithm Development for Combinatorial Optimization within an Integrated Problem Solving Environment*, School of Electrical & Electronic Engineering, Nanyang Technological University, Singapore, 2006.

SUPERVISED MSc. STUDENTS

- Michael Maur. *Adaptive Ant Colony Optimization for the Traveling Salesman Problem*. MSc. Thesis, 2010.
- Jérémie Dubois-Lacoste. *A study of Pareto and Two-Phase Local Search Algorithms for Biobjective Permutation Flowshop Scheduling*. MSc. Thesis, 2009.
- Renaud Lenne. *Analyse comparative d'algorithmes de recherche locale pour la résolution du problème de la médiane génomique*. MSc. Thesis, 2007.
- Trung Truc Huynh. *An Ant Colony Optimization Algorithm for Biobjective Permutation Flowshop Problems*. MSc. Thesis, 2007
- Jens Gimmler. *Metaheuristiken zur kontinuierlichen, globalen Optimierung*. Diplomarbeit (MSc. Thesis), 2005.
- Thomas Ries. *Stochastische lokale Suche zum Lösen von 0-1 Integerprogrammen*. Diplomarbeit (MSc. Thesis), TU Darmstadt, 2005.
- Oliver Korb. *Heuristiken zur Lösung des global rigiden Protein-Ligand-Docking-Problems*. Diplomarbeit (MSc. Thesis), TU Darmstadt, 2004.
- Frank Hutter. *Stochastic Local Search for Solving the Most Probable Explanation Problem in Bayesian Networks*. Diplomarbeit (MSc. Thesis), TU Darmstadt, 2004.
- Manuel López-Ibáñez. *Multi-Objective Ant Colony Optimization*. Diplomarbeit (MSc. Thesis), TU Darmstadt, 2004.
- Tobias Karl. *Das kantengewichtete k-Kardinalitätz-Baum-Problem*. Diplomarbeit (MSc. Thesis), TU Darmstadt, 2004.
- Sven Becker. *Racing-Verfahren für Tourenplanungsprobleme*. Diplomarbeit (MSc. Thesis), TU Darmstadt, 2004.
- Max Risler. *An Efficient Algorithm for the Car Sequencing Problem from the ROADEF 2005 Challenge*. Diplomarbeit (MSc. Thesis), TU Darmstadt, 2004.
- Lucas Lessing. *Ant Colony Optimization for the Set Covering Problem*. Diplomarbeit (MSc. Thesis), TU Darmstadt, 2004.

- Christian Trebing. *Local Search for Multi-Objective MAX-SAT*. Diplomarbeit (MSc. Thesis), TU Darmstadt, 2003.
- Thomas Fischer. *Eine experimentelle Untersuchung des Einflusses von Problemcharakteristika auf die Schwierigkeit des Handlungsreisendenproblems*. Diplomarbeit (MSc. Thesis), TU Darmstadt, 2003.
- Volker Stegmeier. *Metaheuristiken für das quadratische Zuordnungsproblem: Eine experimentelle Untersuchung*. Diplomarbeit (MSc. Thesis), TU Darmstadt, 2002.
- Sebastian Linke. *Randomisierungsstrategien in GRASP—Konstruktion vs. Lokale Suche*. Diplomarbeit (MSc. Thesis), TU Darmstadt, 2002.
- Sebastian Linke. *Eine experimentelle Untersuchung von Ameisenalgorithmen für das Travelling Salesman Problem*. Studienarbeit (short thesis), TU Darmstadt, 2002.
- Marco Rüttger. *Implementierung und Analyse genetischer lokaler Suchverfahren für das “Long Term Car Pooling Problem”*. Diplomarbeit (MSc. Thesis), TU Darmstadt, 2001.
- Marcus Finger. *Generische lokale Suchverfahren für Set Covering Probleme*. Diplomarbeit (MSc. Thesis), TU Darmstadt, 2001.
- Marco Rüttger. *Lokale Suchverfahren und Suchraumanalysen in NK-Landschaften*. Studienarbeit (short thesis), TU Darmstadt, 2001.
- Matthijs van Besten. *Ant Colony Optimization for single-machine sequencing*. MSc. Thesis, Universiteit van Amsterdam, Amsterdam, The Netherlands, 2000.
- Carsten Kunz. *Iterierte Lokale Suche für das Vehicle-Routing Problem*. Diplomarbeit (MSc. Thesis), TU Darmstadt, 2000.
- Marcus Finger and Clemens Noss. *Lokale Suchverfahren für Constraint Satisfaction Probleme*. Studienarbeit (short thesis). TU Darmstadt, 2000.
- Alexander Levin. *The Structure of the QAP Search Space and the Performance of Heuristic Methods*. Studienarbeit (short thesis). TU Darmstadt, 1998.
- Frank Burkard. *Anwendung des Ameisensystems auf das Job Shop Scheduling Problem anhand der MAX-MIN Ant System*. Diplomarbeit (MSc. Thesis), TU Darmstadt, 1997.
- Ulrich Scholz. *Planning by Stochastic Search*. Diplomarbeit (MSc. Thesis), TU Darmstadt, 1997. (together with Michael Thielscher)
- Lars Dittmann. *Anwendung des Ameisensystem auf das SAT Problem*. Studienarbeit (short thesis), TU Darmstadt, 1997. (together with Holger Hoos)

PUBLICATIONS

BOOKS

- B.3** Marco Dorigo and Thomas Stützle. *Ant Colony Optimization*, MIT Press, Cambridge, Massachusetts, USA, 2004.
- B.2** Holger H. Hoos and Thomas Stützle. *Stochastic Local Search — Foundations and Applications*, Morgan Kaufmann Publishers, San Francisco, California, USA, 2004.
- B.1** Thomas Stützle. *Local Search Algorithms for Combinatorial Problems – Analysis, Improvements, and New Applications*, Infix Verlag, Sankt Augustin, Germany, 1999.

EDITED BOOKS OR PROCEEDINGS

- EBP.16** Marco Dorigo, Mauro Birattari, Gianni A. Di Caro, René. Doursat, Andries P. Engelbrecht, Dario Floreano, Luca M. Gambardella, Roderich Groß, Erol Sahin, Hiroki Sayama, and Thomas Stützle. *Swarm Intelligence, 7th International Conference, ANTS 2010*. Volume 6234 in Lecture Notes in Computer Science, **Springer Verlag**, Heidelberg, Germany, 2010.
- EBP.15** Thomas Stützle. *Learning and Intelligent Optimization, Third International Conference, LION 3*. Volume 5851 in Lecture Notes in Computer Science, **Springer Verlag**, Heidelberg, Germany, 2009.
- EBP.14** Vittorio Maniezzo, Thomas Stützle, and Stefan Voß. *Matheuristics: Hybridizing Metaheuristics and Mathematical Programming*. Volume 10 in Annals of Information Systems, **Springer Verlag**, New York, NY, 2009.
- EBP.13** Thomas Stützle, Mauro Birattari, and Holger H. Hoos. *Engineering Stochastic Local Search Algorithms—Designing, Implementing and Analyzing Effective Heuristics*. Volume 5217 in Lecture Notes in Computer Science, **Springer Verlag**, Heidelberg, Germany, 2009.
- EBP.12** G.R. Raidl, E. Alba, J. Bacardit, H.-G. Beyer, M. Birattari, C. Blum, P.A.N. Bosman, C.B. Congdon, D. Corne, C. Cotta, M. Di Penta, B. Doerr, R. Drechsle, M. Ebner, J. Grahl, T. Jansen, J.D. Knowles, T. Lenaerts, M. Middendorf, J. F. Miller, M. O’Neill, R. Poli, G. Squillero, K.O. Stanley, T. Sttzele, and J. van Hemert. *GECCO 2009: Genetic and Evolutionary Computation Conference*, **ACM Press**, New York, NY, USA.
- EBP.11** Marco Dorigo, Mauro Birattari, Christian Blum, Maurice Clerc, Thomas Stützle, and Alan F.T. Winfield. *Ant Colony Optimization and Swarm Intelligence, 6th International Conference, ANTS 2008*, Volume 5217 in Lecture Notes in Computer Science, **Springer Verlag**, Heidelberg, 2008.
- EBP.10** Thomas Stützle, Mauro Birattari, and Holger H. Hoos. *Engineering Stochastic Local Search Algorithms—Designing, Implementing and Analyzing Effective Heuristics*, Volume 4638 in Lecture Notes in Computer Science, **Springer Verlag**, Heidelberg, 2007.

- EBP.9** Dirk Thierens, Hans-Georg Beyer, Mauro Birattari, Josh Bongard, Jürgen Branke, John Andrew Clark, Dave Cliff, Clare Bates Congdon, Kalyanmoy Deb, Benjamin Doerr, Tim Kovacs, Sanjeev Kumar, Julian F. Miller, Jason Moore, Frank Neumann, Martin Pelikan, Riccardo Poli, Kumara Sastry, Kenneth Owen Stanley, Thomas Stützle, Richard A. Watson, and Ingo Wegener. *Proceedings of the 9th Annual Conference on Genetic and Evolutionary Computation*, **ACM Press**, New York, NY, USA.
- EBP.8** Enda Ridge, Thomas Stützle, Mauro Birattari, and Holger H. Hoos. *Proceedings of SLS-DS 2007, Doctoral Symposium on Engineering Stochastic Local Search Algorithms*. Brussels, Belgium, 7 September, 2007.
- EBP.7** Marco Dorigo, Luca Maria Gambardella, Mauro Birattari, Alcherio Martinoli, Riccardo Poli and Thomas Stützle. *Ant Colony Optimization and Swarm Intelligence, 5th International Workshop, ANTS 2006*, Volume 4150 in Lecture Notes in Computer Science, **Springer Verlag**, Berlin, 2006.
- EBP.6** Marco Dorigo, Mauro Birattari, Christian Blum, Luca Gambardella, Francesco Mondada and Thomas Stützle. *Proceedings of ANTS'2004 - Fourth International Workshop on Ant Colony Optimization and Swarm Intelligence*. Volume 3172 in Lecture Notes of Computer Science, **Springer Verlag**, Berlin, 2004.
- EBP.5** Holger Hoos and Thomas Stützle. *Proceedings of the IJCAI-03 Workshop on Stochastic Search Algorithms*. Acapulco, Mexiko, 11. August, 2003.
- EBP.4** Holger Hoos and Thomas Stützle. *Proceedings of the IJCAI-01 Workshop on Stochastic Search Algorithms*. Seattle, USA, 6. August, 2001.
- EBP.3** Holger Hoos and Thomas Stützle. *Proceedings of the IJCAI-01 Workshop on Empirical Methods in Artificial Intelligence*. Seattle, USA, 4. August, 2001.
- EBP.2** Marco Dorigo, Martin Middendorf and Thomas Stützle. *Proceedings of ANTS'2000 – From Ant Colonies to Artificial Ants: Second International Workshop on Ant Algorithms*. Brüssel, Belgien, 7.–9. September, 2000.
- EBP.1** Holger Hoos and Thomas Stützle. *Proceedings of the ECAI'00 Workshop on Empirical Methods in Artificial Intelligence*. Berlin, 22. August, 2000.

JOURNAL SPECIAL ISSUES

- JSI.6** Roberto Battiti, Bart Selman, and Thomas Stützle. Special issue on “Learning and Intelligent Optimization.” *Annals of Mathematics and Artificial Intelligence*, 60(1–2), 2010.
- JSI.5** Karl Doerner, Daniel Merkle, and Thomas Stützle. Special issue on “Ant Colony Optimization.” *Swarm Intelligence*, 3(1), 2009.
- JSI.4** Holger H. Hoos and Thomas Stützle. Special issue on “Stochastic Search Algorithms.” *Annals of Operations Research*, 156(1), 2007.
- JSI.3** Oscar Cordón, Francisco Herrera, and Thomas Stützle. Special issue on “Ant Colony Optimization.” *Mathware & Soft Computing*, IX(2–3), 2002.

JSI.2 Marco Dorigo, Luca Gambardella, and Martin Middendorf, and Thomas Stützle. Special Section on “Ant Colony Optimization.” *IEEE Transactions on Evolutionary Computation*, 6(4), 2002.

JSI.1 Marco Dorigo, Gianni Di Caro, and Thomas Stützle. Special issue on “Ant Algorithms”. *Future Generation Computer Systems*, 16(8), 2000.

INTERNATIONAL JOURNALS

IJ.46 M. Dorigo, D. Floreano, L. M. Gambardella, F. Mondada, S. Nolfi, T. Baaboura, M. Birattari, M. Bonani, M. Brambilla, A. Brutschy, D. Burnier, A. Campo, A. L. Christensen, A. Decugniire, G. Di Caro, F. Ducatelle, E. Ferrante, A. Frster, J. Martinez Gonzales, J. Guzzi, V. Longchamp, S. Magnenat, N. Mathews, M. Montes de Oca, R. O’Grady, C. Pinciroli, G. Pini, P. Rtoraz, J. Roberts, V. Sperati, T. Stirling, A. Stranieri, T. Sttzle, V. Trianni, E. Tuci, A. E. Turgut and F. Vaussard Swarmanoid: A Novel Concept for the Study of Heterogeneous Robotic Swarms. Accepted for publication in *Robotics and Automation Magazine*.

IJ.45 Zhi Yuan, Marco A. Montes de Oca, Thomas Stützle, and Mauro Birattari. Continuous Optimization Algorithms for Tuning Real and Integer Algorithm Parameters of Swarm Intelligence Algorithms Accepted for publication in *Swarm Intelligence*.

IJ.44 Cristina Teixeira, José Covas, Thomas Stützle, and Antonio Gaspar-Cunha. Multi-Objective Ant Colony Optimization for Solving the Twin-Screw Extrusion Configuration Problem. Accepted for publication in *Engineering Optimization*.

IJ.43 Paola Pellegrini, Mauro Birattari, and Thomas Stützle. A Critical Analysis of Parameter Adaptation in Ant Colony Optimization. Accepted for publication in *Swarm Intelligence*.

IJ.42 Andrea Roli, Stefano Benedettini, Thomas Stützle, and Christian Blum. Large Neighbourhood Search for the Founder Sequence Reconstruction Problem. *Computers & Operations Research*, 39(2):213–224, 2012.

IJ.41 Jérémie Dubois–Lacoste, Manuel López–Ibáñez, and Thomas Stützle. Improving the Anytime Behavior of Two-Phase Local Search. *Annals of Mathematics and Artificial Intelligence*, 61(2):125–154, 2011.

IJ.40 Marco Montes de Oca, Dogan Aydin, and Thomas Stützle. An Incremental Particle Swarm for Large-scale Optimization Problems: An Example of Tuning–in–the–loop (Re)Design of Continuous Optimization Algorithms. *Soft Computing*, 15(11):2233–2255, 2011.

IJ.39 Oliver Korb, Thomas Stützle, and Thomas Exner. Accelerating Molecular Docking Calculations Using Graphics Processing Units. *Journal of Chemical Information and Modeling*, 51(4):865–876, 2011.

IJ.38 Cristina Teixeira, José Covas, Thomas Stützle, and Antonio Gaspar-Cunha. Engineering an Efficient Two-Phase Local Search for the Co-Rotating Twin-Screw Configuration Problem. *International Transactions in Operational Research*, 18(2):271–291, 2011.

IJ.37 Marco Montes de Oca, Thomas Stützle, Ken Van den Enden, and Marco Dorigo. Incremental Social Learning in Particle Swarms. *IEEE Transactions on Systems, Man, Cybernetics, Part B: Cybernetics*, 41(2):368–384, 2011.

- IJ.36** Jérémie Dubois–Lacoste, Manuel López–Ibáñez, and Thomas Stützle. A Hybrid TP+PLS Algorithm for Bi-objective Flow-Shop Scheduling Problems. *Computers & Operations Research*, 38(8):1219–1236, 2011.
- IJ.35** Roberto Battiti, Bart Selman, and Thomas Stützle. Special issue on learning and intelligent optimization. *Annals of Mathematics and Artificial Intelligence*, 60(1–2):1–2, 2010.
- IJ.34** Oliver Korb, Peter Monecke, Gerhard Hessler, Thomas Stützle, and Thomas Exner. pharmA-COphore: Multiple Flexible Ligand Alignment Based on Ant Colony Optimization. *Journal of Chemical Information and Modeling*, 50(9):1669–1681, 2010.
- IJ.33** Thijs Urlings, Ruben Ruiz, and Thomas Stützle. Shifting Representation Search for Hybrid Flexible Flowline Problems. *European Journal of Operational Research*, 207(2):1086–1095, 2010.
- IJ.32** Prasanna Balaprakash, Mauro Birattari, Thomas Stützle, and Marco Dorigo. Estimation-based Metaheuristics for the Probabilistic Travelling Salesman Problem. *Computers & Operations Research*, 37(11):1939–1951, 2010.
- IJ.31** Colin Twomey, Thomas Stützle, Max Manfrin, Marco Dorigo, and Mauro Birattari. An Analysis of Communication Policies for Homogeneous Multi-colony ACO Algorithms. *Information Sciences*, 180(12):2390–2404, 2010.
- IJ.30** Frank Hutter, Holger H. Hoos, Kevin Leyton-Brown, and Thomas Stützle. ParamILS: An Automatic Algorithm Configuration Framework. *Journal of Artificial Intelligence Research*, 36:267–306, 2009.
- IJ.29** Marco A. Montes de Oca, Thomas Stützle, Mauro Birattari, and Marco Dorigo. Frankenstein’s PSO: An Engineered Composite Particle Swarm Optimization Algorithm. *IEEE Transactions on Evolutionary Computation*, 13(5):1120–1132, 2009.
- IJ.28** Prasanna Balaprakash, Mauro Birattari, Thomas Stützle, Zhi Yuan, and Marco Dorigo. Estimation-based Ant Colony Optimization Algorithms for the Probabilistic Travelling Salesman Problem. *Swarm Intelligence*, 3(3):223–242, 2009.
- IJ.27** Prasanna Balaprakash, Mauro Birattari, Thomas Stützle and Marco Dorigo. Adaptive Sampling Size and Importance Sampling in Estimation-based Local Search for the Probabilistic Traveling Salesman Problem. *European Journal of Operational Research*, 199(1):98–110, 2009.
- IJ.26** Luis Paquete and Thomas Stützle. Analysis of Components of Stochastic Local Search Algorithms for the Multiobjective Traveling Salesman Problem and the Design of Algorithms. *Computers & Operations Research*, 36(9):2619–2631, 2009.
- IJ.25** Karl F. Doerner, Daniel Merkle, and Thomas Stützle. Special Issue on Ant Colony Optimization. *Swarm Intelligence*, 3(1):1–2, 2009.
- IJ.24** Oliver Korb, Thomas Stützle, and Thomas Exner. Empirical Scoring Functions for Advanced Protein-Ligand Docking with PLANTS. *Journal of Chemical Information and Modeling*, 49(1):84–96, 2009.
- IJ.23** Mauro Birattari, Prasanna Balaprakash, Thomas Stützle and Marco Dorigo. Estimation Based Local Search for Stochastic Combinatorial Optimization using Delta Evaluations: A Case Study on the Probabilistic Traveling Salesman Problem. *INFORMS Journal on Computing*, 20(4):644–658, 2008.

- IJ.22** Rubén Ruiz and Thomas Stützle. An Iterated Greedy Heuristic for the Sequence Dependent Setup Times Flowshop Problem with Makespan and Weighted Tardiness Objectives. *European Journal of Operational Research*, 187(3):1143–1159, 2008.
- IJ.21** P. M. Hahn, B.-J. Kim, W. L. Hightower, T. Stützle, S. Kanthak, H. Samra, Z. Ding and M. Guignard. The Quadratic Three-dimensional Assignment Problem: Exact and Heuristic Solution Methods. *European Journal of Operational Research*, 184(2):416–428, 2008.
- IJ.20** Oliver Korb, Thomas Stützle, and Thomas E. Exner. An Ant Colony Optimization Approach to Flexible Protein–Ligand Docking. *Swarm Intelligence*, 1(2):115–134, 2007.
- IJ.19** Holger H. Hoos and Thomas Stützle. Preface. *Annals of Operations Research*, 156:1–4, 2007.
- IJ.18** Luis Paquete, Tommaso Schiavinotto and Thomas Stützle. On Local Optima in Multiobjective Combinatorial Optimization Problems. *Annals of Operations Research*, 156:83–98, 2007.
- IJ.17** Marco Chiarandini and Thomas Stützle. Stochastic Local Search Algorithms for Graph Set T -Colouring and Frequency Assignment. *Constraints*, 12(3):371–403, 2007.
- IJ.16** Tommaso Schiavinotto and Thomas Stützle. A Review of Metrics on Permutations for Search Landscape Analysis. *Computers & Operations Research*, 34(10):3143–3153, 2007.
- IJ.15** Rubén Ruiz and Thomas Stützle. A Simple and Effective Iterated Greedy Algorithm for the Flowshop Scheduling Problem. *European Journal of Operational Research*, 177(3):2033–2049, 2007.
- IJ.14** Marco Dorigo, Mauro Birattari and Thomas Stützle. Ant Colony Optimization: Artificial Ants as a Computational Intelligence Technique. *IEEE Computational Intelligence Magazine*, 1(4):28–39, 2006.
- IJ.13** Thomas Stützle. Iterated Local Search for the Quadratic Assignment Problem. *European Journal of Operational Research*, 174(3):1519–1539, 2006.
- IJ.12** Manuel López-Ibáñez, Luis Paquete und Thomas Stützle. Hybrid Population-based Algorithms for the Bi-objective Quadratic Assignment Problem. *Journal of Mathematical Modelling and Algorithms*, 5(1):111–137, 2006.
- IJ.11** Luis Paquete and Thomas Stützle. A Study of Stochastic Local Search Algorithms for the Biobjective QAP with Correlated Flow Matrices. *European Journal of Operational Research*, 169(3):943–959, 2006.
- IJ.10** Tommaso Schiavinotto and Thomas Stützle. The Linear Ordering Problem: Instances, Search Space Analysis and Algorithms. *Journal of Mathematical Modelling and Algorithms*, 3(4):367–402, 2004.
- IJ.9** Thomas Stützle and Marco Dorigo. A Short Convergence Proof for a Class of ACO Algorithms. *IEEE Transactions on Evolutionary Computation*, 6(4):358–365, 2002.
- IJ.8** Marco Dorigo and Luca Gambardella and Martin Middendorf and Thomas Stützle. Guest Editorial “Special Section on Ant Colony Optimization”. *IEEE Transactions on Evolutionary Computation*, 6(4):317–319, 2002.
- IJ.7** Oscar Cordon, Francisco Herrera, and Thomas Stützle. A Review on the Ant Colony Optimization Metaheuristic: Basis, Models and New Trends. *Mathware & Soft Computing*, 9(2–3):141–175, 2002.

- IJ.6** Thomas Stützle and Sebastian Linke. Experiments with Variants of Ant Algorithms. *Mathware & Soft Computing*, 9(2–3):193–207, 2002.
- IJ.5** Oscar Cerdón, Francisco Herrera, and Thomas Stützle. Guest Editorial: “Ant Colony Optimization: Models and Applications”. *Mathware & Soft Computing*, 9(2–3):137–139, 2002.
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EXTENDED ABSTRACTS AND OTHERS

The extended abstracts below have undergone a formal (although sometimes light) refereeing process.

- EA.34** Manuel López-Ibáñez, Luis Paquete, and Thomas Stützle. Graphical tools for the analysis of bi-objective optimization algorithms. In *GECCO 2010 Workshop on theoretical aspects of evolutionary multiobjective optimization. GECCO (Companion) 2010*. pp. 1959–1962, ACM Press, New York, NY.
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- EA.17** Marco Chiarandini, Irina Dumitrescu and Thomas Stützle. Large Neighbourhoods in Graph Colouring Problems: An Empirical Analysis In abstract proceedings of Matheuristics 2006, 1st Workshop on Mathematical Contributions to Metaheuristics, Forli, Italy, 2006. Available online at <http://astarte.csr.unibo.it/matheuristics2006/abstracts.htm>.
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- EA.14** Oliver Korb, Thomas Stützle, Stefan Kast, and Thomas Exner. Protein-Ligand Docking: The Energy Landscape View. Bunsentagung, Frankfurt, Germany, May 5-7, 2005.
- EA.13** Oliver Korb, Thomas Stützle, Stefan Kast, and Thomas Exner. When Ants Dock Molecules. 19th Molecular Modelling Workshop, Computer-Chemie-Centrum, Erlangen, Germany, 2005.
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TALKS

PLENARY TALKS AT CONFERENCES

- PT.8** Thomas Stützle. *Stochastic Local Search, Multi-objective Optimization, and Automated Configuration of Algorithms*. Plenary talk given at the 4th Basque Colloquium in Mathematics and its Applications, Basque Center for Applied Mathematics (BCAM), San Sebastian, Spain, February 2011.
- PT.7** Thomas Stützle. *Engineering Stochastic Local Search*. Plenary talk at the “Local Search in Constraint Programming” Workshop, Lisbon, Portugal, September 2009.
- PT.6** Thomas Stützle. *Engineering Stochastic Local Search Algorithms*. Plenary talk at the “EU/MEeting 2009, Debating the future: new areas of application and innovative approaches”, Porto, Portugal, May 2009.
- PT.5** Thomas Stützle. *Ant Colony Optimizatin: A Review*. Plenary talk at the “International Workshop on Nature Inspired Cooperative Strategies for Optimization”, Puerto de la Cruz, Spain, November 2008.
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- PT.3** Thomas Stützle. *Stochastic Local Search: Recent Trends*. Plenary talk at the “II Congreso Mexicano de Computación Evolutiva”, Aguascalientes, Mexico, May 2005.
- PT.2** Thomas Stützle. *Ant Colony Optimization*. Plenary talk at the “Workshop on Local Search”, London, UK. April 2002.
- PT.1** Thomas Stützle. *Algoritmos Basados en Colonias de Hormigas*. Plenary talk at the “First Spanish Congress on Evolutionary and Bio-inspired Algorithms (AEB’02)”, Mérida, Spain. February 2002.

INVITED TALKS

- IT.31** Thomas Stützle. *Automatic Algorithm Configuration: Tools and Applications*. Talk given in the Artificial Intelligence and Natural Computation Series, Computer Science Department, University of Birmingham, United Kingdom, June 2011.
- IT.30** Thomas Stützle. *Automatic Algorithm Configuration: Tools and Applications*. Talk given at the Warwick Business School, University of Warwick, United Kingdom, June 2011.
- IT.29** Thomas Stützle. *Effective Stochastic Local Search Algorithms for Biobjective Permutation Flowshop Problems*. Talk given at the Symposium “OR problems and AI techniques”, Kortrijk, Belgium, March 2011.

- IT.28** Thomas Stützle. *Research on Stochastic Local Search Algorithms at IRIDIA*. Talk given at the Computer Science Department, Université Libre de Bruxelles (ULB), Brussels, Belgium, May 2010.
- IT.27** Thomas Stützle. *Ant Colony Optimization: A Successful Stochastic Local Search Method*. Talk given at Center for Living Technology, Venice, Italy, November 2009.
- IT.26** Thomas Stützle. *Analysis and Design of Stochastic Local Search Algorithms for Multiobjective Optimization*. Talk given at the Journée de formation doctorale “Aide à la Décision multicritère. Modélisation des Préférences et Optimisation Multi-Objectifs”, Brussels, Belgium, October 2008.
- IT.25** Thomas Stützle. *Automated Tuning of Parameterized Algorithms*. Talk given at the Minisymposium on Evolutionary Algorithms, Max-Planck Institut für Informatik, Saarbrücken, Germany, June 2008.
- IT.24** Thomas Stützle. *Towards Engineering Stochastic Local Search Algorithms*. Talk given at the Minisymposium on Evolutionary Algorithms, Max-Planck Institut für Informatik, Saarbrücken, Germany, June 2008.
- IT.23** Thomas Stützle. *Engineering Stochastic Local Search Algorithms*. Talk given at the Department of Information Technology, Uppsala, Sweden, January 2008.
- IT.22** Thomas Stützle. *Ant Colony Optimization*. Talk given at the *Machine Learning* Workshop, Cambridge, England, June 2007.
- IT.21** Thomas Stützle. *Towards Engineering Stochastic Local Search Algorithms*. Talk given at the Information and Communication Technologies Department, Università degli Studi di Trento, April 2007.
- IT.20** Thomas Stützle. *Stochastic Local Search Algorithms: Advances and Recent Trends*. Talk given at the CoDE Department, Université Libre de Bruxelles, December 2006.
- IT.19** Thomas Stützle. *Experience with EU projects at IRIDIA*. Talk given at the FNRS–NCP Contact Day, November 2006.
- IT.18** Thomas Stützle. *Stochastic Local Search Algorithms: Techniques and Recent Trends*. Talk given at the Computer Science Department, Vrije Universiteit Brussel, March 2006.
- IT.17** Thomas Stützle. *Ant Colony Optimization: Eine Einführung*. Talk given at the Chemistry Department, University of Konstanz. 2. December 2005.
- IT.16** Thomas Stützle. *Ant Colony Optimization: Eine Einführung*. Talk given at the Institut für theoretische Physik, Universität Göttingen. 20. April 2005.
- IT.15** Thomas Stützle. *Stochastic Local Search Methods: Iterated Local Search and Recent Trends in SLS*. Talk given at the Fakultät für Wirtschaftswissenschaften, University of Vienna. December 2004.
- IT.14** Thomas Stützle. *Stochastic Local Search: Applications and Foundations*. Talk given at the *Institut de Recherches Interdisciplinaires et de Développements en Intelligence Artificielle* (IRIDIA), Université Libre de Bruxelles, Brüssel. 30. November 2004.
- IT.13** Thomas Stützle. *Empirical Analysis of Stochastic Local Search Algorithms with Run-time Distributions*. Computer Science Department, University of Erlangen–Nürnberg, June 2004.

- IT.12** Thomas Stützle. *Topics in Stochastic Local Search*. Informatikkolloquium, Computer Science Department, Darmstadt University of Technology, January 2004.
- IT.11** Thomas Stützle and Mauro Birrattari. *Optimal Configuration of Algorithms by Experimental Design?* Talk given at the Statistics Seminar, Department of Statistics, University of Dortmund. October 2001.
- IT.10** Thomas Stützle. *Iterated Local Search*. Invited talk at the Institute of Applied Informatics and Formal Description Methods, University of Karlsruhe, Germany. October 26, 2001.
- IT.9** Thomas Stützle. *Ant Colony Optimization for Combinatorial Optimization*. Invited talk at the Interdisziplinärer Arbeitskreis (IAK) of the University of Mainz, Germany. June 26, 2001.
- IT.8** Thomas Stützle. *Iterated Local Search*. Invited talk at the Department of Computer Science and Artificial Intelligence, University of Granada, Spain. May 2001.
- IT.7** Thomas Stützle. *MAX-MIN Ant System — An effective Ant Colony Optimization Algorithm for Combinatorial Optimization Problems*. Invited talk at the Department of Computer Science and Artificial Intelligence, University of Granada, Spain. May 2001.
- IT.6** Thomas Stützle. *Eine Einführung in die Optimierung mit Ameisenalgorithmen*. Invited talk at the Mainzer KI-Kreis, Universität Mainz, Mainz, Germany. November 14, 2000.
- IT.5** Thomas Stützle. *Ant Colony Optimization Approaches for Combinatorial Optimization Problems*. Invited talk at the Departament d'Economia i Empresa, Universitat Pompeu Fabra, Barcelona, Spain, November 2, 1999.
- IT.4** Thomas Stützle. *Iterated Local Search and Evolution Strategies for the Quadratic Assignment Problem*. Invited talk at the 16th European Conference on Operational Research, Brussels, July 1998.
- IT.3** Thomas Stützle. *An Ant Colony Optimization Approach to the Quadratic Assignment Problem*. Invited talk at the INFORMS-98 Meeting, Tel Aviv, Israel, June 1998.
- IT.2** Thomas Stützle. *Ameisenalgorithmen für kombinatorische Optimierungsprobleme*. Invited talk at the Faculty of Economic Sciences, University of Karlsruhe. June 1997.
- IT.1** Thomas Stützle. *Combinatorial Optimisation with MAX-MIN Ant System*. Invited talk of the IEEE Kharagpur Section, Indian Institute of Technology, Kharagpur (Distinguished Lecturer). February 1997.