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Objective

My research interests are the fundamental problems in computer science and information technology that impact the real world, especially in the areas distributed computing, networking, and algorithms; currently in particular, wireless networking, wide area networking, mobile systems, social networks, and physical algorithms.

Overview of Achievements

- Head of the Distributed Computing Group at ETH Zurich, established in 2001.
- Unusual blend of *basic and applied research*, proving theorems on the one hand, and building practical systems on the other. More details on our research can be found on the group web page www.disco.ethz.ch.
- More than 400 peer-reviewed *publications in different areas*: Distributed Computing (e.g. PODC, SPAA, DISC), Systems & Networking (e.g. SIGCOMM, OSDI, MobiCom, MobiHoc, SenSys, IPSN, HotNets, IPTPS), or Theory of Computer Science (e.g. STOC, FOCS, SODA, ICALP).
- Members of our group have won several best paper *awards* at top conferences such as PODC, SPAA, DISC, or MobiCom. For more details, please visit www.disco.ethz.ch/publications.html.
- Winning Prize for Innovations in Distributed Computing in 2012, for "extensive contributions to the study of distributed approximation".
- Some projects turned into startup companies, e.g. Wuala, StreamForge, BitSplitters.
- Several projects have been covered by popular blogs and traditional media, e.g. Gizmodo, Lifehacker, New York Times, NBC News, NZZ, PC World Magazing, Red Herring, Technology Review.

Ph.D. Graduates

#	Student	Thesis Title	Co-Examiners	Defense
42	Tejaswi Nadahalli	TBD	Majid Khabbazian, Alberta; Andrew Miller, UIUC	Winter 2023

41	Ye Wang	Decentralized Finance: Users, Applications, and Systems	Giulia Fanti, CMU; Elissa Redmiles, MPI SWS	July 2022
40	Damian Pascual	Leveraging and Understanding Deep Learning Models from Brain Activity to Language Processing	Yonatan Belinkov, Technion; Mariya Toneva, MPI SWS	May 2022
39	Yuyi Wang	The Power of Patience: Action Delay in Online Algorithms	Yossi Azar, Tel-Aviv; Shay Kutten, Technion	May 2022
38	Oliver Richter	Architectural Considerations for Deep Reinforcement Learning	Will Dabney, DeepMind; Kee-Eung Kim, KAIST; Donglin Wang, WestLake;	January 2022
37	Simon Tanner	Hiding Data in Music and Analyzing Air Traffic Surveillance Transmissions	Haitham Hassanieh, UIUC	May 2021
36	Andras Pal Papp	A Study of Influence Propagation in Social and Financial Networks	Ulrik Brandes, ETH Zurich; Agnieszka Rusinowska, Sorbonne	May 2021
35	Zeta Avarikioti	A Theoretical Treatment of Blockchains Scaling Protocols	Matteo Maffei, TU Vienna; Andrew Miller, UIUC	March 2021
34	Gino Brunner	Applications of Deep Learning for Sequential Data: Music, Human Activity and Language	Thomas Hofmann, ETH Zurich	September 2020
33	Darya Melnyk	Byzantine Agreement on Representative Input Values Over Public Channels	Ittai Abraham, VMware Research; Bryan Ford, EPFL	August 2020
32	Pankaj Khanchandani	Robust and Scalable Distributed Ordering	Eli Gafni, UCLA; Rachid Guerraoui, EPFL	June 2020
31	Manuel Eichelberger	Robust Global Localization Using GPS and Aircraft Signals	Penina Axelrad, Colorado	June 2019
30	Sebastian Brandt	Distributed Lower Bounds: Lovász Local Lemma, Mobile Agents, Cops and Robbers	Michael Elkin, Ben-Gurion; Seth Pettie, Michigan	December 2017
29	Michael König	Adding more PHY to the MAC: Exploiting Physical Layer Effects in Wireless Networks	Olaf Landsiedel, Chalmers	July 2017

28	Pascal Bissig	Mobile Sensing: GPS Localization, WiFi Mapping, Applications, and Risks	Jie Liu, MSR Redmond	April 2017
27	Klaus-Tycho Foerster	Don't Disturb my Flows: Algorithms for Consistent Network Updates in Software Defined Networks	Ratul Mahajan, MSR Redmond; Stefan Schmid, Aalborg	September 2016
26	Philipp Brandes	Adversarial Input in Games and Markets	Martin Hoefer, MPI Saarbrucken	July 2016
25*	Christian Decker	On the Scalability and Security of Bitcoin	Elaine Shi, Cornell; Emin Gün Sirer, Cornell	January 2016
24	Barbara Keller	Society in Graphs	Eric Goles, Adolfo Ibáñez	November 2015
23	Jochen Seidel	Anonymous Distributed Computing	Jukka Suomela, Aalto; Yuval Emek, Technion	August 2015
22	Jara Uitto	Collaboration in Multi-Agent Systems: Active Learning and Fault-Tolerance	Amos Korman, CNRS & Paris Diderot; Yuval Emek, Technion	August 2015
21	Tobias Langner	Collaboration in Distributed Systems: Robots, Ants, and Matchings	Franck Petit, INRIA & Paris 6; Yuval Emek, Technion	February 2015
20	Samuel Welten	Sensing with Smartphones: Light Authentication, Heavy Personalization and Medical Applications	Andrew Campbell, Dartmouth	September 2013
19	Stephan Holzer	Distance Computation, Information Dissemination, and Wireless Capacity in Networks	Artur Czumaj, Warwick; Pierre Fraigniaud, CNRS & Paris 7	September 2013
18	Raphael Eidenbenz	Coping with Selfishness in Distributed Systems: Mechanism Design in Multi-Core and Peer-to-Peer Systems	Karl Aberer, EPFL; Dov Monderer, Technion	February 2012
17	Johannes Schneider	Decentralized Coordination: Methods and Applications	Rachid Guerraoui, EPFL; Uzi Vishkin, Maryland	November 2011

16	Philipp Sommer	Wireless Embedded Systems: Time, Location, and Applications	Akos Ledeczi, Vanderbilt; John Stankovic, Virginia	September 2011
15	Remo Meier	Toward Structured and Time-Constraint Content Delivery Systems	Johan Pouwelse, TU Delft	March 2011
14*	Christoph Lenzen	Synchronization and Symmetry Breaking in Distributed Systems	Danny Dolev, Hebrew University; Berthold Vöcking, RWTH Aachen	January 2011
13	Michael Kuhn	Understanding and Organizing User Generated Data: Methods and Applications	Albrecht Schmidt, LMU Munich	August 2010
12	Nicolas Burri	Ultra-Low Power Sensor Networks: Development Tools, Design, and Implementation	Jochen Schiller, FU Berlin	April 2010
11	Roland Flury	Routing on the Geometry of Wireless Ad Hoc Networks	Sandor Fekete, TU Braunschweig; Leonidas Guibas, Stanford	September 2009
10	Olga Goussevskaia	Computational Complexity and Scheduling Algorithms for Wireless Networks	Stephan Eidenbenz, Los Alamos National Lab; Nitin Vaidya, Urbana-Champaign	July 2009
9	Yvonne Anne Pignolet (Oswald)	Algorithmic Challenges in Wireless Networks: Interference, Energy, and Incentives	James Aspnes, Yale; Subhash Suri, UCSB	March 2009
8*	Thomas Locher	Foundations of Aggregation and Synchronization in Distributed Systems	Nancy Lynch, MIT; Christian Scheideler, TU Munich; Jennifer Welch, Texas A&M	February 2009
7	Pascal von Rickenbach	Energy-Efficient Data Gathering in Sensor Networks	Magnús Halldórsson, Reykjavik; Bhaskar Krishnamachari, USC	May 2008
6	Stefan Schmid	Dynamics and Cooperation: Algorithmic Challenges in Peer-to-Peer Computing	Boaz Patt-Shamir, Tel Aviv; Tim Roughgarden, Stanford	April 2008
5	Regina O'Dell (Bischoff)	Understanding Ad Hoc Networks from Mobility to Geometry	Rajmohan Rajaraman, Northeastern; Dorothea Wagner, Karlsruhe KIT	September 2006
4	Keno Albrecht	Mastering Spam – A Multifaceted Approach with the Spamato Spam Filter System	Gordon Cormack, Waterloo; Christof Fetzer, TU Dresden	September 2006

3*	Thomas Moscibroda	Locality, Scheduling, and Selfishness: Algorithmic Foundations of Highly Decentralized Networks	Christos Papadimitriou, Berkeley; David Peleg, Weizmann Institute; James Aspnes, Yale	July 2006
2*	Fabian Kuhn	The Price of Locality: Exploring the Complexity of Distributed Coordination Primitives	Nathan Linial, Hebrew University; Friedhelm Meyer auf der Heide, Paderborn; Maurice Herlihy, Brown University	August 2005
1	Aaron Zollinger	Networking Unleashed: Routing and Topology Control in Ad Hoc and Sensor Networks	Matthias Grossglauser, EPFL; Charles Perkins, Nokia Research	April 2005

- The theses marked with an asterisk (*) have been awarded with an *ETH medal*.
- A bit more than half of the PhD graduates joined a university or research lab after their PhD, e.g., IBM Research, Microsoft Research, ABB Research, MIT, Hebrew University, TU Munich, IST Austria, CSIRO Australia, Freiburg, Aalborg, Aalto.
- About 10 former PhD students are still in academia, as a professor.
- Some PhD graduates founded a startup company.
- And some PhD graduates joined a company, in particular Google.
- Only former member on the postdoc level: Yuval Emek, ETH Fellow and Postdoc, 2010-2013, now Professor at the Technion.
- Some former members are now professors, in particular Olga Goussevskaia (University of Minas Gerais), Fabian Kuhn (University of Freiburg), Thomas Moscibroda (Tsinghua University), Stefan Schmid (University Vienna), Christoph Lenzen (University Saarbrücken & MPI).
- Supervising numerous student projects: On average our group supervises more than a dozen Masters, Diploma, or Semester theses each year. For details, please visit www.disco.ethz.ch/theses.html.

Teaching

Course Name	Details	Year(s)
Hands-On Deep Learning	Undergraduate practical lab for EE students with different topics: deep learning, natural language processing, graph neural networks, computer vision	Since 2022
Code Jam Lab	Undergraduate 3rd year practical lab for EE students, competitive programming with Google Code Jam	Since 2021

Computational Thinking	Undergraduate 3rd year elective course for EE students, teaching computation: algorithms, complexity, cryptography, databases, machine learning, neural networks, computability	Since 2020
Deep Neural Networks Seminar	Graduate-level research seminar, with different topics in the area	Since 2019
Computer Systems	Undergraduate 3rd year core course; taught with Timothy Roscoe	Since 2018
Computer Engineering Lab	Undergraduate 3rd year practical lab for EE students, focusing on systems programming	Since 2016
Discrete Event Systems	Undergraduate 3rd year selective course for EE students; first 10 years taught alone, since 2015 taught with Lothar Thiele and Laurent Vanbever	Since 2004
Principles of Distributed Computing	Advanced graduate level course; most years taught alone, in earlier years with Peter Widmayer, Christian Cachin, or Fabian Kuhn, in later years taught with Mohsen Ghaffari; this course is taught at dozens of other universities throughout the world	Since 2003
Distributed Systems Lab	Practical graduate-level group project; in collaboration with various other professors	Since 2003
Distributed Computing Seminar	Graduate-level research seminar, with different topics	2003-2018
Computer Engineering II	Undergraduate 2nd year basic course for EE students, focusing on Operating Systems (Networks, Storage, Computation). For CSE students this course was known as Operating Systems and Networks	2016-2019
Distributed Systems	Undergraduate 3rd year core course; taught together with Friedemann Mattern and Gustavo Alonso	2002-2015
Ad Hoc and Sensor Networks	Advanced graduate level course	2007-2010
Computer Networks	Undergraduate 2nd year basic course for CS students; mostly taught alone, once with Gustavo Alonso and Timothy Roscoe	2002-2006
Mobile Computing	Advanced graduate level course	2002-2006
Web Algorithms	Advanced graduate level course; taught together with Peter Widmayer	2001-2005

- The web sites of all courses can be found at www.disco.ethz.ch/courses.html
- Additional teaching at various conferences and summer schools (see Selected Talks below)

Research Community Service

Name	Full Name	Year(s)	Directing Role
Dagstuhl Seminar	Computational Social Dynamics	2022	*Co-Organizer*
ICDCN	International Conference on Distributed Computing and Networking	2022, 2012	*General Co-Chair*
CCS DeFi	ACM CCS Workshop on Decentralized Finance and Security	2021	*Workshop Co-Chair*
IPSN	International Conference on Information Processing in Sensor Networks	2021	*PC Co-Chair*
Needham Award	EuroSys Roger Needham Award Review Committee	2019	*Committee Chair*
CVC	Crypto Valley Conference on Blockchain Technology	2019	*PC Co-Chair*
AFT	ACM Conference on Advances in Financial Technologies	2019	*Local Chair*
EATCS Fellows Committee	European Association for Theoretical Computer Science Fellows Selection Committee	2018	*Committee Chair*
SSS	International Symposium on Stabilization, Safety, and Security of Distributed Systems	2016, 2011	*Track Chair*
ALGOSENSORS	International Workshop on Algorithmic Aspects of Wireless Sensor Networks	2015	*PC Chair*
SOFSEM	International Conference on Current Trends in Theory and Practice of Computer Science	2015	*PC Co-Chair, Foundations Track*
P2P	IEEE International Conference on Peer-to-Peer Computing	2014	*PC Co-Chair*
ICALP	International Colloquium on Automata, Languages and Programming	2012	*PC Co-Chair, Track C*
NCCR MICS	Annual Workshop on Mobile Information and Communication Systems	2011	*Co-Organizer*
PODC	ACM Symposium on Principles of Distributed Computing	2010	*Local Chair*
Dagstuhl Seminar	Flexible Network Design	2010	*Co-Organizer*
ICDCN	International Conference on Distributed Computing and Networking	2009	*PC Co-Chair*
Dijkstra Prize	Edsger W. Dijkstra Prize in Distributed Computing	2007	*Committee Chair*

PODC	ACM Symposium on Principles of Distributed Computing	2007	*PC Chair*
IPTPS	International Workshop on Peer-to-Peer Systems	2007	*PC Co-Chair and Local Co-Chair*
Dagstuhl Seminar	Seminar on Geometry in Sensor Networks	2007	*Co-Organizer*
OPODIS	International Conference on Principles of Distributed Systems	2005	*PC Co-Chair*
MobiHoc	ACM International Symposium on Mobile Ad Hoc Networking and Computing	2005	*PC Co-Chair*
Dagstuhl Seminar	Seminar on Algorithms for Sensor and Ad Hoc Networks	2005	*Co-Organizer*
Dynamo	Workshop on Dynamic Networks	2005	*Organizer*
NCCR MICS	Annual Workshop on Mobile Information and Communication Systems	2004	*Co-Organizer*
NCCR MICS	Summer School Mobile Information and Communication Systems	2004	*Co-Organizer*
SIROCCO	International Colloquium on Structural Information and Communication Complexity	1997	*Local Chair*

Name	Full Name	Year(s)	Role
JCSS	Journal of Computer and System Sciences	2022 –	Editorial Board
IPSN	International Conference on Information Processing in Sensor Networks	2021 –	Steering Committee Member
FC	Financial Cryptography and Data Security	2023, 2022	PC Member
DSN	Annual IEEE/IFIP International Conference on Dependable Systems and Networks	2023	PC Member
WSDM	ACM International Conference on Web Search and Data Mining	2023	PC Member
MobiCom	ACM International Conference on Mobile Computing and Networking	2023, 2005, 2004, 2003	PC Member
PODC	ACM Symposium on Principles of Distributed Computing	2023, 2012, 2004, 2002	PC Member
OSDI	USENIX Symposium on Operating Systems Design and Implementation	2023, 2018	PC Member
EuroSys	European Conference on Computer Systems	2022, 2020, 2018, 2017	PC Member
WWW	ACM Web Conference	2022	PC Member

AACL-IJCNLP	International Joint Conference on Natural Language Processing	2022	PC Member
AFT	ACM Conference on Advances in Financial Technologies	2022, 2020, 2019	PC Member
BioNLP	ACL SIGBIOMED Workshop BioNLP	2022	PC Member
ConsensusDay	ACM CCS 2022 Workshop on Developments in Consensus	2022	PC Member
DLT Banking	Distributed Ledger Technology in Banking Conference	2022	PC Member
ICDCS	IEEE International Conference on Distributed Computing Systems	2022, 2010, 2005	PC Member
CCS	ACM Conference on Computer and Communications Security	2021	PC Member
ATC	USENIX Annual Technical Conference	2021	PC Member
S&B	IEEE Security and Privacy on the Blockchain	2020, 2019	PC Member
Needham Award	EuroSys Roger Needham Award Review Committee	2020, 2018	Committee Member
SIROCCO	Colloquium on Structural Information and Communication Complexity	2020, 2015, 2014, 2006	PC Member
SRDS	International Symposium on Reliable Distributed Systems	2019	PC Member
Tokenomics	International Conference on Blockchain Economics, Security and Protocols	2019	PC Member
SenSys	ACM Conference on Embedded Networked Sensor Systems	2019, 2018	PC Member
SIFF	Swiss International FinTech, InsurTech & Blockchain Conference	2018	PC Member
BITCOIN	Workshop on Bitcoin Research	2018, 2015	PC Member
DISC	International Symposium on Distributed Computing	2018, 2008, 2000	PC Member
ICALP	International Colloquium on Automata, Languages and Programming	2018, 2015, 2011, 2009	PC Member
CVC	Crypto Valley Conference on Blockchain Technology	2018	PC Member
SOCCA	Symposium on Cryptocurrency Analysis	2018	PC Member
CBT	Cryptocurrencies and Blockchain Technology	2018, 2017	PC Member
Dijkstra Prize	Edsger W. Dijkstra Prize in Distributed Computing	2017, 2012	Committee Member

SPAA	ACM Symposium on Parallelism in Algorithms and Architectures	2017, 2014, 2011, 2006	PC Member
SIGMOBILE Test of Time	ACM SIGMOBILE Test of Time Paper Awards	2017	Committee Member
SODA	ACM-SIAM Symposium on Discrete Algorithms	2017	PC Member
EATCS Fellows Committee	European Association for Theoretical Computer Science Fellows Selection Committee	2016, 2015, 2014	Committee Member
PODC Dissertation Award	Principles of Distributed Computing Doctoral Dissertation Award	2016	Committee Member
WRAWN	Workshop on Realistic models for Algorithms in Wireless Networks	2011 – 2016	Steering Committee Member
IPSN	International Conference on Information Processing in Sensor Networks	2016, 2011, 2010	PC Member
WALCOM	International Workshop on Algorithms and Computation	2016	PC Member
EATCS	European Association for Theoretical Computer Science	2011 – 2015	Council Member
CIAC	International Conference on Algorithms and Complexity	2015	PC Member
TAPAS	Theory and Practice of Algorithms in (Computer) Systems	2010 – 2014	Steering Committee Member
BDA	Workshop on Biological Distributed Algorithms	2013	PC Member
ICDCN	International Conference on Distributed Computing and Networking	2010 – 2011	Advisory Committee Member
FOWANC	ACM International Workshop on Foundations of Wireless Ad Hoc and Sensor Networking and Computing	2010 – 2011	Steering Committee Member
CoRoNet	International ACM Sigmobile Workshop on Cognitive Radio Networks	2010	PC Member
BuildSys	International ACM Workshop on Embedded Sensing Systems For Energy-Efficiency In Buildings	2010	PC Member

MobiHoc	ACM International Symposium on Mobile Ad Hoc Networking and Computing	2010, 2008, 2006, 2004	PC Member
IPIN	International Conference on Indoor Positioning and Indoor Navigation	2010	PC Member
IZS	International Zurich Seminar on Communications	2010, 2008, 2006	PC Member
ICDCN	International Conference on Distributed Computing and Networking	2010, 2006	PC Member
SocialCom	IEEE International Conference on Social Computing	2010	PC Member
PODC	ACM Symposium on Principles of Distributed Computing	2007 – 2009	Steering Committee Member
P2P	IEEE International Conference on Peer-to-Peer Computing	2009	PC Member
IPDPS	IEEE International Parallel and Distributed Processing Symposium	2009	PC Member
INFOCOM	Conference of the IEEE Communications Society	2009, 2008	PC Area Chair
IPTPS	International Workshop on Peer-to-Peer Systems	2009, 2004	PC Member
FOWANC	ACM International Workshop on Foundations of Wireless Ad Hoc and Sensor Networking and Computing	2008	PC Member
DISC	International Symposium on Distributed Computing	2004 – 2006	Steering Committee Member
MSN	International Conference on Mobile Ad-hoc and Sensor Networks	2006	PC Member
OPODIS	International Conference on Principles of Distributed Systems	2006	PC Member
SSS	International Symposium on Stabilization, Safety, and Security of Distributed Systems	2006	PC Member
INFOCOM	Conference of the IEEE Communications Society	2006, 2005	PC Member
PWN	International Workshop on Pervasive Wireless Networking	2006	PC Member
HiPC	International Conference on High Performance Computing	2005	PC Member

MASS	IEEE International Conference on Mobile Ad-hoc and Sensor Systems	2004	PC Member
FOMC	Joint Workshop on Foundations of Mobile Computing	2003	PC Member

- In addition, reviewer of hundreds of journal and additional conference papers.

Ph.D. Theses Examination Board

#	Student	Thesis Title	Advisor	Place	Year
34	Lucianna Kiffer	Security, Use and Scalability of Blockchain Systems	Alan Mislove, Rajmohan Rajaraman	Northeastern	2022
33	Sebastian Henningsen	Empirical and Analytical Perspectives on the Robustness of Blockchain-related Peer-to-Peer Networks	Björn Scheuermann	HU Berlin	2022
32	Ahad N. Zehmakan	On the Spread of Information Through Graphs	Bernd Gärtner, Emo Welzl	ETH Zurich	2019
31	Fabien Dufoulon	Overcoming Interference in the Beeping Communication Model	Janna Burman, Joffroy Beauquier	Paris Saclay	2019
30	Marjorie Bournat	Graceful Degradation and Speculation for Robots in Highly Dynamic Environments	Yoann Dieudonné, Swan Dubois, Franck Petit	Paris Sorbonne	2019
29	Lucas Boczkowski	Searching and Broadcasting in Stochastic Environments, a Biological Perspective	Amos Korman	Paris 7	2018
28	André Naz	Distributed Algorithms for Large-scale Robotic Systems: Centrality, Synchro-nization and Self-reconfiguration	Julien Bourgeois, Benoit Piranda	UFC CNRS	2017
27	Arthur Gervais	On the Security, Performance and Privacy of Proof of Work Blockchains	Srdjan Capkun	ETH Zurich	2016

26	Joel Rybicki	Counting, Clocking, and Coloring: Fault-tolerant Distributed Coordination	Jukka Suomela	Aalto	2016
25	Yuezhou Lv	Incentive and Influence Networks	Thomas Moscibroda	Tsinghua	2016
24	Hsin-Hao Su	Algorithms for Fundamental Problems in Computer Networks	Seth Pettie	Michigan	2015
23	Giuseppe Di Luna	On Deterministic Counting in Anonymous Dynamic Networks	Roberto Baldoni	La Sapienza Rome	2015
22	Moti Medina	Online Algorithms in Computer Networks	Guy Even, Boaz Patt-Shamir	Tel Aviv	2014
21	Dimitra Gkorou	Exploiting Graph Properties for Decentralized Reputation Systems	Dick Epema, Johan Pouwelse	TU Delft	2014
20	Liron Levin	Combinatorial Algorithms in Ad Hoc Networks	Michael Segal	Ben Gurion	2014
19	Markus Völker	Algorithmic Aspects of Communication and Localization in Wireless Sensor Networks	Dorothea Wagner	KIT Karlsruhe	2012
18	Alexander Fanghänel	Scheduling in Wireless Networks with Oblivious Power Assignments	Berthold Vöcking	RWTH Aachen	2010
17	Carlo Nocentini	Dynamic Networks: Algorithms, Simulation, and Experiments	Pierluigi Crescenzi	Florence	2010
16	Jukka Suomela	Optimisation Problems in Wireless Sensor Networks: Local Algorithms and Local Graphs	Patrik Floreen	Helsinki	2009
15	Patrick Stuedi	From Theory to Practice: Fundamental Properties and Services of Mobile Ad Hoc Networks	Gustavo Alonso	ETH Zurich	2008
14	Till Bay	Hosting Distributed Software Projects: Concepts, Framework and the Origo Experience	Bertrand Meyer	ETH Zurich	2008
13	Alexander Kroeller	Algorithms for Topology-Aware Sensor Networks, Advisor	Sandor Fekete	TU Braun-schweig	2007
12	Katharina Lehmann	On Local Behavior and Global Structures in the Evolution of Complex Networks	Michael Kaufmann	Tubingen	2007

11	Luzius Anderegg	Mechanisms for Efficient Selfish Routing and Positioning in Ad Hoc Networks	Peter Widmayer	ETH Zurich	2006
10	Tim Nieberg	Independent and Dominating Sets in Wireless Communication Networks	Johann Hurink	Twente	2006
9	Hannes Stratil	Advantages and Limitations of Position-based Communication in Wireless Ad-hoc Networks	Ulrich Schmid	TU Vienna	2006
8	Lujun Jia	Communication Structures for Ad Hoc Networks	Rajmohan Rajaraman	Northeastern	2005
7	Marc Heissenbüttel	Routing and Broadcasting in Ad-Hoc Networks	Torsten Braun	Bern	2005
6	Bernd Thallner	Topology Control for Fault-Tolerant Communication in Wireless Ad Hoc Networks	Ulrich Schmid	TU Vienna	2005
5	Phuong Ha	Reactive Shared Objects for Interprocess Synchronization	Philippas Tsigas	Chalmers	2004
4	Reto Strobl	Distributed Cryptographic Protocols in Asynchronous Networks with Universal Computability	Ueli Maurer	ETH Zurich	2004
3	Razvan Cristescu	Efficient Decentralized Communications in Sensor Networks	Martin Vetterli	EPFL	2004
2	Roger Karrer	Design of Topology-Aware Networked Applications	Thomas Gross	ETH Zurich	2002
1	Konrad Schlude	Distributed Data and Resources: Models, Tractability, and Complexity	Peter Widmayer	ETH Zurich	2002

Other Service

- Many professor search and grant approval committees, for instance in Finland, France, Germany, Netherlands, Ireland, Singapore, Sweden, and of course in Switzerland.
- In addition, referee for more than two dozen professor position/tenure cases, for candidates in the USA, Europe, Israel, and Canada.

- At ETH Zurich, involvement in more than a dozen professor search committees, both in the Computer Science and the Information Technology and Electrical Engineering (ITET) department.
- Head of the Computer Engineering and Networks Laboratory, about half the time since 2008.
- Co-founder of the Institute for Pervasive Computing, Department of Computer Science, ETH Zurich.
- Member of the Commission for Studies ("Unterrichtskommission") in the Department of Information Technology and Electrical Engineering at ETH Zurich, 2011-2018. Also in the Department of Computer Science, 2002-2004.
- Chair of the Commission of Computing Projects (KIM) at the ITET Department of ETH Zurich, 2009-2012.
- Member of the Admission Board for Graduate Studies at the ITET Department, 2006-2018.
- Member of the Information and Communications Technology (ICT) Commission of ETH, starting 2019.
- Representing the ITET Department to prospective students, 2004-2010.
- Co-Organizer of the ITET Keynote lecture series, in 2005.
- Industry courses, such as "Peer-to-Peer Computing" and "Wireless Networks and Mobile Computing", each held several times.
- Coach of the Swiss Olympic Team in Informatics, 1997-1999.
- Co-Organizer of the Swiss Championship in Informatics, 1996-1998.

Third Party Money

Funding Agency	Project Name	Contribution	Collaborators	Years
Huawei	Huawei Donation to Study Distributed Systems	200k	-	2020-2022
Ripple	Ripple University Blockchain Research Initiative	1M	Srdjan Capkun, Ueli Maurer	2019-2021
ETH/Risk	Money Creation	300k	Hans Gersbach	2018-2020
Microsoft	Swiss JRC: Software Defined Networks: Algorithms and Mechanisms	2 PhD 40%, CHF 250k	-	2014-2018
SNF	NCCR Mobile Information and Communication (MICS), Customizing the world of pervasive data	2 PhD 50%, CHF 320k	Gustavo Alonso	2010-2013

ETH/TH	NCCR Mobile Information and Communication (MICS), Customizing Project, Matching Funds	2 PhD 25%, CHF 160k	Gustavo Alonso	2010-2013
SNF	MC2: Fundamentals of Multi-Core Computing	2 PhD 50%, CHF 250k	-	2009-2012
SNF	P2P Streaming of Scalable Content for PCs and Consumer Electronics	CHF 300k	StreamForge	2009-2011
Hasler Stiftung	3GP2P: 3rd Generation Peer-to-Peer Systems	2 PhD 50%, CHF 250k	-	2006-2009
BBT/KTI	Energy Efficient Mesh Control for Wireless Sensor Networks	1 PhD, CHF 80k	Shockfish SA	2006-2007
ETH/TH	NCCR Mobile Information and Communication (MICS), Algorithms Project, Matching Funds	2 PhD 25%, CHF 160k	Peter Widmayer	2005-2009
SNF	NCCR Mobile Information and Communication (MICS), Algorithms for Ad hoc and Sensor Networks	2 PhD 50%, CHF 320k	Peter Widmayer	2005-2009
SNF	Decentralized Internetworking	2 PhD 50%, CHF 240k	-	2005-2008
SNF	COST Action 295 DYNAMO: Dynamic Networks	1 PhD 50%, CHF 120k	Peter Widmayer	2005-2009
EU	Elected vice chair of the European COST Action 295 DYNAMO	Travel and cooperation grants	-	2005-2009
NCCR MICS	Mobile Information and Communication Systems	Summer internship positions, about CHF 100k	-	2002-2008
Intel	Architectures for Mobile Information and Communication Systems	$60k cash, $100k equipment	Friedemann Mattern, Gustavo Alonso	2002-2003
ETH/TH	Efficient Algorithms for Selfish Agents	1 PhD 50%, CHF 120k	Peter Widmayer	2002-2005
Hasler Stiftung	Fault-Tolerant and Efficient Peer-to-Peer Systems	2 PhD 50%, CHF 240k	-	2002-2005
SNF	Highly Available Distributed Data Structures	1 PhD 50%, CHF 80k	Peter Widmayer, Rachid Guerraoui	2002-2005

ETH/TH	NCCR Mobile Information and Communication (MICS) project IP9 Matching Funds	2 PhD 25%, CHF 160k	Lothar Thiele, Friedemann Mattern	2001-2005
SNF	NCCR Mobile Information and Communication (MICS) project IP9	2 PhD 50%, CHF 320k	Lothar Thiele, Friedemann Mattern, Andre Schiper	2001-2005

Experience & Education

Time	Position	Affiliation
8/2008 – present	Full Professor	Distributed Computing Group, Computer Engineering and Networks Laboratory, Department of Information Technology and Electrical Engineering, ETH Zurich, Switzerland
7/2012 – 8/2013	Sabbatical	Systems and Networking Group, Microsoft Research, Redmond, WA
7/2004 – 7/2008	Associate Professor	Distributed Computing Group, Computer Engineering and Networks Laboratory, Department of Information Technology and Electrical Engineering, ETH Zurich, Switzerland
10/2006 – 3/2007	Sabbatical	Macquarie University, Sydney, Australia
10/2001 – 6/2004	Assistant Professor	Distributed Computing Group, Institute for Pervasive Computing, Department of Computer Science, ETH Zurich, Switzerland
4/2000 – 10/2001	Post-Doc Researcher	Systems and Networking Group, Microsoft Research, Redmond, WA
4/1999 – 4/2000	Post-Doc Researcher	Computer Science Department, Brown University, Providence, RI
1995 – 1999	Ph.D. in Computer Science	Research and Teaching Assistant, Computer Science Department, ETH Zurich, Switzerland. (Advisor Peter Widmayer, Co-Examiner Maurice Herlihy, Additional Expert Nir Shavit)
1990 – 1995	Studies in Computer Science	ETH Zurich, Switzerland, with Minor in Operations Research

Personal

- Swiss citizen, born November 17, 1969
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- References are available on request.

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Publications

- Some personally valued publications are in **bold**.
- Our research group often follows the convention of having alphabetically ordered authors.
- More than 30,000 citations, high h-index.
- For details please visit scholar.google.com, and search for "Wattenhofer".

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372. Thomas Moscibroda, and Roger Wattenhofer. Maximizing the Lifetime of Dominating Sets. Proceedings of the 5th IEEE International Workshop on Algorithms for Wireless, Mobile, Ad Hoc and Sensor Networks (WMAN), Denver, Colorado, April 2005.

373. Pascal von Rickenbach, Stefan Schmid, Roger Wattenhofer, and Aaron Zollinger. A Robust Interference Model for Wireless Ad-Hoc Networks. Proceedings of the 5th IEEE International Workshop on Algorithms for Wireless, Mobile, Ad Hoc and Sensor Networks (WMAN), Denver, Colorado, April 2005.

374. Fabian Kuhn, Stefan Schmid, and Roger Wattenhofer. A Self-Repairing Peer-to-Peer System Resilient to Dynamic Adversarial Churn. Proceedings of the 4th International Workshop on Peer-to-Peer Systems (IPTPS), Ithaca, New York, February 2005.

375. Li Li, Joseph Halpern, Victor Bahl, Yi-Min Wang, and Roger Wattenhofer. A Cone-Based Distributed Topology-Control Algorithm for Wireless Multi-Hop Networks. IEEE/ACM Transactions on Networking, Volume 13, Number 1, Pages 147-159, February 2005. (Journal version of a PODC 2001 paper.)

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376. Thomas Moscibroda and Roger Wattenhofer. Efficient Computation of Maximal Independent Sets in Unstructured Multi-Hop Radio Networks. Proceedings of the 1st IEEE International Conference on Mobile Ad-hoc and Sensor Systems (MASS), Fort Lauderdale, Florida, October 2004.

377. Hagit Attiya, Fabian Kuhn, Mirjam Wattenhofer, and Roger Wattenhofer. Efficient Adaptive Collect Using Randomization. Proceedings of the 18th Annual Conference on Distributed Computing (DISC), Amsterdam, Netherlands, October 2004. (Best student paper award)

378. Mirjam Wattenhofer and Roger Wattenhofer. Distributed Weighted Matching. Submitted to Conference. Proceedings of the 18th Annual Conference on Distributed Computing (DISC), Amsterdam, Netherlands, October 2004.

379. Thomas Moscibroda, Regina O'Dell, Mirjam Wattenhofer, and Roger Wattenhofer. Virtual Coordinates in Ad hoc and Sensor Networks. Proceedings of the 2nd ACM Joint Workshop on Foundations of Mobile Computing (DIALM-POMC, now FOMC), Philadelphia, Pennsylvania, October 2004.

380. Pascal von Rickenbach and Roger Wattenhofer. Gathering Correlated Data in Sensor Networks. Proceedings of the 2nd ACM Joint Workshop on Foundations of Mobile Computing (DIALM-POMC, now FOMC), Philadelphia, Pennsylvania, October 2004.

381. Fabian Kuhn, Thomas Moscibroda, and Roger Wattenhofer. Unit Disk Graph Approximation. Proceedings of the 2nd ACM Joint Workshop on Foundations of Mobile Computing (DIALM-POMC, now FOMC), Philadelphia, Pennsylvania, October 2004.

382. Fabian Kuhn, Thomas Moscibroda, and Roger Wattenhofer. Polylogarithmic Clustering Algorithms in Multihop Radio Networks. Proceedings of the 10th Annual International Conference on Mobile Computing and Networking (MobiCom), Philadelphia, Pennsylvania, September 2004. (Best presentation award.)

383. Fabian Kuhn, Thomas Moscibroda, and Roger Wattenhofer. Radio Network Clustering from Scratch. Proceedings of the 12th Annual European Symposium on Algorithms (ESA), Bergen, Norway, September 2004.

384. Giovanna Melideo, Paolo Penna, Guido Proietti, Roger Wattenhofer, and Peter Widmayer. Truthful Mechanisms for Generalized Utilitarian Problems. IFIP TCS 2004:167-180 Proceedings of the 3rd International Conference on Theoretical Computer Science (TCS), Toulouse, France, August 2004.

385. Keno Albrecht, Ruedi Arnold, and Roger Wattenhofer. Aggregating Information in Peer-to-Peer Systems for Improved Join and Leave. Proceedings of the 4th International Conference on Peer-to-Peer Computing (P2P), Zurich, Switzerland, August 2004.

386. Costas Busch, Malik Magdon-Ismail, Marios Mavricolas, and Roger Wattenhofer. O(Congestion + Dilation) Bufferless Routing on Trees. Proceedings of the European Conference on Parallel Computing (Euro-Par), Pisa, Italy, August 2004.

387. Fabian Kuhn, Thomas Moscibroda, and Roger Wattenhofer. What Cannot be Computed Locally! Proceedings of the 23rd ACM Symposium on Principles of Distributed Computing (PODC), St. John's, Newfoundland, Canada, July 2004. (Best student paper award)

388. Fabian Kuhn, Thomas Moscibroda, and Roger Wattenhofer. Efficient Clustering in Unstructured Radio Networks. Proceedings of the 23rd ACM Symposium on Principles of Distributed Computing (PODC), St. John's, Newfoundland, Canada, July 2004.

389. Fabian Kuhn and Roger Wattenhofer. Dynamic Analysis of the Arrow Distributed Protocol. Proceedings of the 16th ACM Symposium on Parallelism in Algorithms and Architectures (SPAA), Barcelona, Spain, June 2004.

390. Mirjam Wattenhofer and Roger Wattenhofer. Fast and Simple Algorithms for Weighted Perfect Matching. Proceedings of the 3rd Cologne Twente Workshop on Graphs and Combinatorial Optimization (CTW), Como, Italy, May 2004.

391. Martin Burkhart, Pascal von Rickenbach, and Roger Wattenhofer, Aaron Zollinger. Does Topology Control Reduce Interference? Proceedings of the 5th ACM International Symposium on Mobile Ad Hoc Networking and Computing (MobiHoc), Tokyo, Japan, May 2004.

392. Roger Wattenhofer and Peter Widmayer. The Counting Pyramid – An Adaptive Distributed Counting Scheme. Journal of Parallel and Distributed Computing, Volume 64, Issue 4 Pages 449-460, April 2004. (Journal version of a SIROCCO 1998 paper.)

393. Roger Wattenhofer and Aaron Zollinger. XTC: A Practical Topology Control Algorithm for Ad-Hoc Networks. Proceedings of the 4th International IEEE Workshop on Algorithms for Wireless, Mobile, Ad Hoc and Sensor Networks (WMAN), Santa Fe, New Mexico, April 2004.

394. Regina Bischoff and Roger Wattenhofer. Analyzing Connectivity-Based Multi-Hop Ad-Hoc Positioning. Proceedings of the 2nd Annual IEEE International Conference on Pervasive Computing and Communications (PerCom), Orlando, Florida, March 2004.

395. Roger Wattenhofer. Ad-Hoc and Sensor Networks: Worst-Case and Average-Case. Invited paper. Proceedings of the 18th International Zurich Seminar on Communications (IZS), Zurich, Switzerland, February 2004.

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396. Keno Albrecht, Ruedi Arnold, and Roger Wattenhofer. Clippee: A Large-Scale Client/Peer System. Proceedings of the International Workshop on Large-Scale Group Communication, Florence, Italy, October 2003.

397. Gustavo Alonso, Evangelos Kranakis, Cindy Sawchuk, Roger Wattenhofer, and Peter Widmayer. Probabilistic Protocols for Node Discovery in Ad Hoc Multi-channel Broadcast Networks. Proceedings of the 2nd International Conference on AD-HOC Networks and Wireless (ADHOC-NOW), Montreal, Canada, October 2003.

398. Fabian Kuhn, Roger Wattenhofer, and Aaron Zollinger. Ad-Hoc Networks Beyond Unit Disk Graphs. Proceedings of the 1st ACM Joint Workshop on Foundations of Mobile Computing (DIALM-POMC, now FOMC), San Diego, California, September 2003.

399. **Fabian Kuhn and Roger Wattenhofer. Constant-Time Distributed Dominating Set Approximation. Proceedings of the 22nd ACM Symposium on Principles of Distributed Computing (PODC), Boston, Massachusetts, July 2003. (Best student paper award)**

400. Fabian Kuhn, Roger Wattenhofer, Aaron Zollinger, and Yan Zhang. Geometric Ad-Hoc Routing: Of Theory and Practice. Proceedings of the 22nd ACM Symposium on Principles of Distributed Computing (PODC), Boston, Massachusetts, July 2003.

401. Fabian Kuhn, Roger Wattenhofer, and Aaron Zollinger. Worst-Case Optimal and Average-Case Efficient Geometric Ad-Hoc Routing. Proceedings of the The 4th ACM International Symposium on Mobile Ad Hoc Networking and Computing (MobiHoc), Annapolis, Maryland, June 2003.

402. Gustavo Alonso, Evangelos Kranakis, Roger Wattenhofer, and Peter Widmayer. Probabilistic Protocols for Node Discovery in Ad-Hoc Single Broadcast Networks. Proceedings of the 3rd International Workshop on Wireless, Mobile and Ad Hoc Networks (WMAN), Nice, France, April 2003.

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403. Atul Adya, William J. Bolosky, Miguel Castro, Gerald Cermak, Ronnie Chaiken, John R. Douceur, Jon Howell, Jacob R. Lorch, Marvin Theimer, and Roger Wattenhofer. FARSITE: Federated, Available, and Reliable Storage for an Incompletely Trusted Environment. Proceedings of the 5th Symposium on Operating Systems Design and Implementation (OSDI), Boston, Massachusetts, December 2002. (Patents in US, Europe, and China.)

404. Fabian Kuhn and Roger Wattenhofer, Aaron Zollinger. Asymptotically Optimal Geometric Mobile Ad-Hoc Routing. Proceedings of the 6th International Workshop on Discrete Algorithms and Methods for Mobile Computing and Communications (DIALM, now FOMC), Atlanta, Georgia, September 2002.

405. Joachim Giesen, Roger Wattenhofer, and Aaron Zollinger. Towards a Theory of Peer-to-Peer Computability. Proceedings of the 9th International Colloquium on Structural Information and Communication (SIROCCO), Andros, Greece, June 2002.

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406. John Douceur and Roger Wattenhofer. Competitive Hill-Climbing Strategies for Replica Placement in a Distributed File System. Proceedings of the 15th International Symposium on Distributed Computing (DISC), Lisbon, Portugal, October 2001.

407. John Douceur and Roger Wattenhofer. Optimizing File Availability in a Serverless Distributed File System. Proceedings of the 20th IEEE Symposium on Reliable Distributed Systems (SRDS), New Orleans, Louisiana, October 2001.

408. Abha Ahuja, Craig Labovitz, Madanlal Musuvathi, Srinivasan Venkatachary, and Roger Wattenhofer. BGP-CT: A First Step Towards Fast Internet Route Fail-Over. Microsoft Research Tech Report. US Patent.

409. John Douceur, and Roger Wattenhofer. Modeling Replica Placement in a Distributed File System: Narrowing the Gap between Competitive Analysis and Simulation. Proceedings of the 9th Annual European Symposium on Algorithms (ESA), Aarhus, Denmark, August 2001.

410. Maurice Herlihy, Srikanta Tirthapura, and Roger Wattenhofer. Competitive Concurrent Distributed Queuing. Proceedings of the 20th ACM Symposium on Principles of Distributed Computing (PODC), Newport, Rhode Island, August 2001.

411. Li Li, Joseph Halpern, Victor Bahl, Yi-Min Wang, and Roger Wattenhofer. Analysis of a Cone-Based Distributed Topology Control Algorithm for Wireless Multihop Networks. Proceedings of the 20th ACM Symposium on Principles of Distributed Computing (PODC), Newport, Rhode Island, August 2001.

412. John Douceur and Roger Wattenhofer. Large-Scale Simulation of Replica Placement Algorithms for a Serverless Distributed File System. Proceedings of the 9th International Symposium on Modeling, Analysis and Simulation on Computer and Telecommunication Systems (MASCOTS), Cincinnati, Ohio, August 2001.

413. Costas Busch, Maurice Herlihy, and Roger Wattenhofer. Routing without Flow Control. Proceedings of 13th ACM Symposium on Parallel Algorithms and Architectures (SPAA), Crete Island, Greece, July 2001.

414. Maurice Herlihy, Srikanta Tirthapura, and Roger Wattenhofer. Ordered Multicast and Distributed Swap. Operating Systems Review 35, Pages 85-96, June 2001. (Journal Version of a PODC MWS 2000 paper.)

415. Craig Labovitz, Roger Wattenhofer, Srinivasan Venkatachary, and Abha Ahuja. The Impact of Internet Policy and Topology on Delayed Routing Convergence. Proceedings of 20th Annual Joint Conference of the IEEE Computer and Communications Societies (INFOCOM), Anchorage, Alaska, April 2001.

416. Roger Wattenhofer, Li Li, Victor Bahl, and Yi-Min Wang. Distributed Topology Control for Power Efficient Operation in Multihop Wireless Ad Hoc Networks. Proceedings of 20th Annual Joint Conference of the IEEE Computer and Communications Societies (INFOCOM), Anchorage, Alaska, April 2001. (US Patent.)

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417. Craig Labovitz, Roger Wattenhofer, Srinivasan Venkatachary, and Abha Ahuja. Resilience Characteristics of the Internet Backbone Routing Infrastructure. Proceedings of the 3rd Information Survivability Workshop, Boston, Massachusetts, October 2000.

418. Maurice Herlihy, Srikanta Tirthapura, and Roger Wattenhofer. Ordered Multicast and Distributed Swap. Proceedings of the PODC Middleware Symposium, Portland, Oregon, July 2000.

419. Costas Busch, Maurice Herlihy, and Roger Wattenhofer. Hard-Potato Routing. Proceedings of the 32nd Annual ACM Symposium on Theory of Computing (STOC), Portland, Oregon, May 2000.

420. Costas Busch, Maurice Herlihy, and Roger Wattenhofer. Randomized Greedy Hot-Potato Routing. Proceedings of the 11th ACM-SIAM Symposium on Discrete Algorithms (SODA), San Francisco, California, January 2000.

Before 2000

421. Roger Wattenhofer and Peter Widmayer. An Inherent Bottleneck in Distributed Counting. Journal of Parallel and Distributed Computing (JPDC), Vol. 49, Pages 135-145, 1998. (Journal version of a PODC 1997 paper.)

422. Roger Wattenhofer and Peter Widmayer. The Counting Pyramid – An Adaptive Distributed Counting Scheme. Proceedings of the 5th International Colloquium on Structural Information & Communication Complexity (SIROCCO), Amalfi, Italy, June 1998.

423. Roger Wattenhofer and Peter Widmayer. A unified analysis of distributed counting with queueing theory. Proceedings of the 1st Workshop on Distributed Data and Structures (WDAS), Orlando, Florida, March 1998.

424. Eduard Bugnion, Thomas Roos, Roger Wattenhofer, and Peter Widmayer. Space filling curves versus random walks. Proceedings of the 1st Algorithmic Foundations of Geographic Information Systems Workshop, LNCS 1340, Springer, October 1997.

425. Roger Wattenhofer and Peter Widmayer. An Inherent Bottleneck in Distributed Counting. Proceedings of the 16th Annual ACM Symposium on Principles of Distributed Computing (PODC), Santa Barbara, California, August 1997.

Books & Monographs

1. Roger Wattenhofer. Mastering Distributed Algorithms. Inverted Forest Publishing. March 2020.

2. Roger Wattenhofer. Blockchain Science: Distributed Ledger Technology. Inverted Forest Publishing, January 2019.

3. Roger Wattenhofer, Jinchuan Chen, Qiang Lin, Yunzhi Xue, Qing Zhu. The Science of the Blockchain. Translation of the Book to Simple Chinese, September 2017.

4. Roger Wattenhofer. Distributed Ledger Technology: The Science of the Blockchain. Inverted Forest Publishing, March 2017.

5. Roger Wattenhofer. The Science of the Blockchain. Inverted Forest Publishing, January 2016.

6. Dorothea Wagner and Roger Wattenhofer (Editors). Algorithms for Sensor and Ad Hoc Networks. Lecture Notes in Computer Science (LNCS) Volume 4621, Springer, June 2007.

7. Roger Wattenhofer. Distributed Counting – How to Bypass Bottlenecks. Ph.D. thesis 12826, ETH Zurich, 1998. (Thesis was awarded with an ETH medal.)

Book Chapters & Scientific Magazines

1. Magnús M. Halldórsson, Roger Wattenhofer. Wireless Network Algorithmics. Computing and Software Science: 141-160, 2019

2. Christoph Lenzen and Roger Wattenhofer. Distributed Algorithms for Wireless Networks. Invited survey article in the Philosophical Transactions of the Royal Society A, 370, 11-26, 2012.

3. Stefan Schmid and Roger Wattenhofer. Peer-to-Peer. Chapter in Book: Encyclopedia of Parallel Computing, ed. David Padua, Springer Verlag, September 2011.

4. Olga Goussevskaia, Yvonne-Anne Pignolet and Roger Wattenhofer. Efficiency of Wireless Networks: Approximation Algorithms for the Physical Interference Model. Foundations and Trends in Networking, Volume 4, Issue 3, 2010.

5. Stefan Schmid and Roger Wattenhofer. Modeling Sensor Networks. Chapter in Book: Algorithms and Protocols for Wireless, Mobile Ad Hoc Networks, ed. Azzedine Boukerche, John Wiley & Sons Inc, 2008.

6. Fabian Kuhn, Thomas Locher, and Roger Wattenhofer. Distributed Selection: A Missing Piece of Data Aggregation. The article is accompanied with a technical perspective by Hagit Attiya. Communications of the ACM (CACM), Section Research Highlights, Volume 51, Issue 9, 93-99, September 2008. (Invited magazine version of a SPAA 2007 paper.)

7. Thomas Moscibroda and Roger Wattenhofer. Local Computation in Unstructured Radio Networks. Chapter in Book: Encyclopedia of Algorithms, Springer Verlag, 2008.

8. Michael Kuhn and Roger Wattenhofer. The Theoretic Center of Computer Science. ACM SIGACT NEWS, Volume 38, Number 4, 2007.

9. James Aspnes, Costas Busch, Shlomi Dolev, Panagotia Fatourou, Christos Georgiou, Alex Shvartsman, Paul Spirakis, and Roger Wattenhofer. Eight Open Problems in Distributed Computing. Bulletin of the European Association for Theoretical Computer Science, No. 90, 2006.

10. Keno Albrecht, Fabian Kuhn, and Roger Wattenhofer. Dependable Peer-to-Peer Systems Withstanding Dynamic Adversarial Churn. Dependable Systems: Software, Computing, Networks. Lecture Notes in Computer Science (LNCS) Volume 4028, Springer, 2006.

11. Thomas Moscibroda and Roger Wattenhofer. How to Structure Chaos: Initializing Ad-Hoc and Sensor Networks. Chapter in Book: Theoretical and Algorithmic Aspects of Sensor, Ad Hoc Wireless and Peer-to-Peer Networks, CRC Press, 2005.

12. Roger Wattenhofer and Peter Widmayer. Parallele Präfixsummation: Das Schweizer Taschenmesser der parallelen Algorithmen. Chapter in Book: Prinzipien des Algorithmenentwurfs, ed. T. Ottmann, Spektrum Akademischer Verlag, Heidelberg, 103-121, 1997.

- In addition our work has been covered in articles by popular newspapers and magazines, e.g. NZZ, Sonntagszeitung, or Technology Review, or by popular weblogs such as Gizmodo or Lifehacker.

Editorial Work

1. Arthur Gervais, Philipp Jovanovic, Dawn Song, Roger Wattenhofer, Proceedings of the 1st ACM CCS Workshop on Decentralized Finance and Security (CCS DeFi), Virtual, November 2021.

2. Polly Huang, Roger Wattenhofer. Proceedings of the 20th International Conference on Information Processing in Sensor Networks (IPSN), Virtual, May 2021.

3. Prosenjit Bose, Leszek Antoni Gasieniec, Kay Römer, and Roger Wattenhofer. Proceedings of the 11th International Symposium on Algorithms and Experiments for Wireless Sensor Networks (ALGOSENSORS), Patras, Greece, August 2015.

4. Artur Czumaj, Kurt Mehlhorn, Andrew Pitts, and Roger Wattenhofer. Proceedings of the 39th International Colloquium on Automata, Languages and Programming (ICALP), Warwick, United Kingdom, July 2012.

5. Roger Wattenhofer. Guest Editor of Special Issue on PODC 2007. Distributed Computing. Volume 21, Issue 5, February 2009.

6. Vijay Garg, Roger Wattenhofer, and Kishore Kothapalli. Proceedings of the 10th International Conference on Distributed Computing and Networking (ICDCN) 2009, Hyderabad, India, January 2009.

7. Indranil Gupta and Roger Wattenhofer. Proceedings of the 26th ACM Symposium on Principles of Distributed Computing (PODC) 2007, Portland, Oregon, August 2007.

8. Subhash Suri, Roger Wattenhofer, and Peter Widmayer. Geometry in Sensor Networks, Schloss Dagstuhl, Germany, April 2007.

9. James Anderson and Roger Wattenhofer. Proceedings of the 9th International Conference on Principles of Distributed Systems (OPODIS), Pisa, Italy, December 2005.

10. P. R. Kumar, Andrew T. Campbell, and Roger Wattenhofer. Proceedings of the 6th ACM Interational Symposium on Mobile Ad Hoc Networking and Computing (MobiHoc), Urbana-Champaign, Illinois, May 2005.

Selected Talks

1. Wireless Networks Algorithms: Looking Back & Moving Forward. Invited talk. International Symposium on Algorithmics of Wireless Networks (ALGOSENSORS), Potsdam, Germany, September 2022.

2. Graph Neural Networks as Application of Distributed Algorithms. Keynote talk. ApPLIED Workshop, Salerno, Italy, July 2022.

3. Networks, Dynamics, Algorithms, and Learning. Keynote talk. 1st Symposium on Algorithmic Foundations of Dynamic Networks (SAND), Online, March 2022.

4. Panel on Latest Developments in DeFi, DeFi22 Workshop, organized by The Swiss National Bank and the BIS Innovation Hub, Zurich, Switzerland, April 2022.

5. Networks, Dynamics, Algorithms, and Learning. Keynote Talk. 1st Symposium on Algorithmic Foundations of Dynamic Networks (SAND), Online, March 2022.

6. Graph Neural Networks. Keynote Talk. 18th International Conference on Distributed Computing and Intelligent Technology (ICDCIT), Online, January 2022.

7. Cascade: Asynchronous Proof-of-Stake. Invited Talk. Vienna Security Forum (ViSP), Online, November 2021.

8. Are Financial Networks Highly Complex? Invited Talk. BIS Fintech Seminar Series, Online, November 2021.

9. Krypto-Gold – Zahlen wir bald mit Bitcoin? Invited Talk. ETH Science City, October 2021.

10. Democracy without Politicians. Invited Talk. AI Policy Conference, Online, September 2021.

11. Should We Care About Central Bank Digital Currency? Keynote Talk. Theory and Practice of Blockchains (TPBC), Online, June 2021.

12. Are Financial Networks Highly Complex? Invited Talk. Swiss National Bank Seminar Series, Online, June 2021.

13. Next Economic Crisis? It's the Network, Stupid! Keynote Speech. 29th International Conference on Computer Communications and Networks (ICCCN), originally in Honolulu, Hawaii, but then moved online, August 2020.

14. An Asynchronous Blockchain Without Consensus? Invited Talk. Workshop on Distributed Computing in Dynamic Networks, originally in Houston, Texas, but then moved online, May 2020.

15. Blockchain. Invited PhD School Tutorial. Grand Sasso Science Institute (GSSI) and 26th International Colloquium on Structural Information and Communication Complexity (Sirocco), L'Aquila, Italy, July 2019.

16. Brauche ich eine Blockchain? Invited Talk. Finanz und Wirtschaft Forum, Rüschlikon, Switzerland, June 2019.

17. Shopping for IT. Invited Talk. 12th Shopping Center Forum, Kloten, Switzerland, May 2019.

18. Kryptogeld. Invited Talk. Fokus Sicherheitsdruck, Falschgeld und Kryptowährung, Landesmuseum, Swiss National Museum, Zurich, Switzerland, April 2019.

19. Location, Location, Location, and Time. Invited Talk. Winter Enrichment Program (WEP) at KAUST University, Saudi Arabia, February 2019.

20. Does a Blockchain Need Altruism? Invited Talk. 2nd Conference Crypto-Currencies in a Digital Economy (CCConf), Berlin, Germany, November 2018.

21. The Role of Cryptography in Distributed Systems. Invited Talk. 22nd Workshop on Elliptic Curve Cryptography (ECC), Osaka, Japan, November 2018.

22. Introduction to Blockchain. Invited Tutorial. Autumn School on Elliptic Curves, Osaka, Japan, November 2018.

23. Algorithms For and Against the Cloud. Keynote Talk. 4th International Symposium on Algorithmic Aspects of Cloud Computing (AlgoCloud), Helsinki, Finland, August 2018.

24. Happy 10th Birthday, Nakamoto! Keynote Talk. International Conference on Distributed Computing and Networking (ICDCN), Varanasi, India, January 2018.

25. What Should We Learn From Nakamotos Blockchain? Keynote Talk. 21st International Conference on Principles of Distributed Systems (OPODIS), Lisbon, Portugal, December 2017.

26. Blockchain Scalability. Invited Talk. Workshop on Algorithms for Big Data, Tel Aviv, Israel, November 2017.

27. Is There any Practical Theory? Keynote Talk. 15th ACM Conference on Embedded Networked Sensor Systems (SenSys), Delft, Netherlands, November 2017.

28. An Efficient Blockchain? Keynote Talk. 1st International Workshop on Cryptocurrencies and Blockchain Technology (CBT), Oslo, Norway, September 2017.

29. Blockchains: Foundations and Security. EBSIS Summer School on Distributed Event Based Systems and Related Topics, Villars-sur-Ollon, Switzerland July 2018.

30. Die Blockchain – Eine Basis für die Zukunft? Invited Talk. Future Day, Frankfurt, Germany, June 2017.

31. Consensus. Summer School LASER Software Technology for Blockchains, Bitcoin and Distributed Trust Systems, Elba Island, Italy, June 2018.

32. Cryptocurrencies: Bitcoin, Blockchain & Beyond. Invited Talk. Austrian National Bank, Vienna, Austria, May 2017.

33. GeldDebatten: Finanzindustrie und Gesellschaft. Panel Discussion. Miller's Studio, Zurich, Switzerland, April 2017.

34. Metric Matching: Cheap or Stable … or Fast? Keynote Talk. 4th Day on Computational Game Theory (AGT), Zurich, Switzerland, February 2017.

35. Scaling Bitcoin: Micropayment Channel Networks. Invited Talk. 1st ForDigital Blockchain Workshop, Karlsruhe, Germany, February 2017.

36. Cryptocurrencies: Bitcoin, Blockchain & Beyond. Keynote Talk. 10th Heinz Nixdorf Symposium, Paderborn, Germany, September 2016.

37. Distributed Computing: Graph Drawing Unplugged. Invited Talk. 24th International Symposium on Graph Drawing and Network Visualization (GD), Athens, Greece, September 2016.

38. Foundations of Distributed Computing. Lecture Series. 17th Max Planck Advanced Course on the Foundations of Computer Science (ADFOCS), Saarbrücken, Germany, August 2016.

39. Cryptocurrencies: Bitcoin, Blockchain and Beyond. Closed Door Presentation. Bank for International Settlements (BIS), Basel, Switzerland, July 2016.

40. Cryptocurrencies: From Technology to Economy. Invited Talk. Conference on Alternative Financial and Monetary Architectures, Zurich, Switzerland, June 2016

41. Consensus. Lecture. IACR Summer School on Blockchain Technologies, Corfu, Greece, May 2016.

42. Sensor Networks, Where Theory Meets Practice. 5th International Conference on Sensor Networks (SENSORNETS), Rome, Italy, February 2016.

43. Bitcoin: Synchronization and Sharing of Transactions. 2rd Workshop on Cloud Services for Synchronisation and Sharing (CS3), Zurich, Switzerland, January 2016.

44. Is Bitcoin Stable, Secure, and Scalable? Keynote Talk. 16th International Symposium on Stabilization, Safety, and Security of Distributed Systems (SSS), Edmonton, Alberta, Canada, August 2015.

45. Wireless Networks: Do Not Disturb My Circles. Invited Talk. Workshop on Geometric Networks at Symposium of Computational Geometry (SOCG), Eindhoven, Netherlands, June 2015.

46. Ad Hoc Networks: Pushing Mobile and Wireless Communication Since 1970. Keynote Talk. 15th ACM International Symposium on Mobile Ad Hoc Networking and Computing (MobiHoc), Philadelphia, Pennsylvania, August 2014.

47. Managing Dynamic Networks: Distributed or Centralized Control? Invited Talk. Joint talk of 6th Workshop on Theoretical Aspects of Dynamic Distributed Systems (TADDS) and 1st Workshop on Distributed Software Defined Networks (DSDN), Paris, France, July 2014.

48. Time is Money! Distinguished Guest Speaker. IST Austria Young Scientist Symposium, May 2014.

49. Is Network Science a Science? Keynote Talk. 6th IEEE International Workshop on Network Science for Communication Networks (NetSciCom), Toronto, Canada, May 2014.

50. Think Global, Act Local. Keynote Talk. 13th Scandinavian Symposium and Workshops on Algorithm Theory (SWAT), Helsinki, Finland, July 2012.

51. Distributed Complexity Theory. Prize for Innovations in Distributed Computing Reception. 19th International Colloquium on Structural Information and Communication Complexity (SIROCCO), Reykjavík, Iceland, July 2012.

52. Distributed Algorithms for Wireless Multihop Networks. Invited Tutorial. 13th International Conference on Distributed Computing and Networking (ICDCN), Hong Kong, China, January 2012.

53. Physical Algorithms. Keynote Talk. 5th China Wireless Sensor Network Conference (CWSN), Beijing, China, September 2011.

54. Your Next Mobile Phone! Invited Talk. 16th Symposium on Privacy and Security (SPS), Zurich, Switzerland, September 2011.

55. Theory Meets Practice: It's about Time. Invited Talk. Networking Lecture Series Workshop, TU Berlin, Germany, July 2011.

56. Distributed Algorithms for Wireless Multihop Networks. Invited Tutorial. 10th International Conference on Ad Hoc Networks and Wireless (ADHOC-NOW), Paderborn, Germany, July 2011.

57. Distributed Algorithms. Invited Tutorial. Workshop on Sublinear Algorithms. Bertinoro, Italy, May 2011.

58. Physical Algorithms. Keynote Talk. 37th International Colloquium on Automata, Languages and Programming (ICALP), Bordeaux, France, July 2010.

59. Distributed Algorithms. Lecture Series. DIMAP Summer School on Approximation and Randomized Algorithms, Warwick, UK, July 2010.

60. Wireless Algorithms. Keynote Talk. 1st Workshop on Realistic Models for Algorithms in Wireless Networks (WRAWN), Bergen, Norway, June 2010.

61. Theory Meets Practice: It's About Time! Keynote Talk. 12èmes Rencontres Francophones sur les Aspects Algorithmiques de Télécommunications (AlgoTel), Belle Dune, France, May 2010.

62. Theory Meets Practice: It's About Time! Keynote Talk. 36th International Conference on Current Trends in Theory and Practice of Computer Science (SOFSEM), Špindlerův Mlýn, Czech Republic, January 2010.

63. Self-Stabilization: From Efficacy to Efficiency. Keynote Talk. 11th International Symposium on Stabilization, Safety, and Security of Distributed Systems (SSS), Lyon, France, November 2009.

64. Ad Hoc and Sensor Networks. Block Course, Salerno, Italy, July 2009.

65. Theory for Sensor Networks, What is it Good For?! Academic Year Inauguration Lecture, University La Sapienza, Rome, Italy, November 2008.

66. Theory for Sensor Networks, What is it Good For?! Invited Talk. 5th SIGACT-SIGOPS Workshop on Foundations of Mobile Computing (DIALM-POMC, now FOMC), Toronto, Canada, August 2008.

67. Algorithms for Sensor Networks, What is it Good For?! Keynote Talk. 4th International Workshop on Algorithmic Aspects of Wireless Sensor Networks (ALGOSENSORS), Reykjavik, Iceland, July 2008.

68. Algorithms for Sensor Networks. Invited Lecture. Summer School on Graphs and Algorithms in Communication Networks, Bertinoro, Italy, May 2008.

69. Worst-Case Capacity in Wireless Networks. Keynote Talk. 4th Workshop on Resource Allocation in Wireless Networks (RAWNET), Berlin, Germany, March 2008.

70. Sensor Networks: Distributed Computing and Networking Get Together to Gather Data. Keynote Talk. 9th International Conference on Distributed Computing and Networking (ICDCN), Kolkata, India, January 2008.

71. The Complexity of Connectivity in Wireless Networks. Plenary Speech. 2nd Annual Workshop on Wireless Systems Advanced Research and Development (WISARD), Bangalore, India, January 2008.

72. Sensor Networks: Distributed Algorithms Reloaded – or Revolutions? Plenary Speech. Graphs and Algorithms in Communication Networks (GRAAL), Zurich, Switzerland, September 2006.

73. Sensor Networks: Distributed Algorithms Reloaded – or Revolutions? Keynote Talk. 13th Colloquium on Structural Information and Communication Complexity (SIROCCO), Chester, United Kingdom, July 2006.

74. MACbeth: The Three Witches of Media Access Theory. Keynote Talk. IEEE International Workshop on Foundations and Algorithms for Wireless Networking (FAWN), Pisa, Italy, March 2006.

75. Algorithms for Sensor Networks. Invited Tutorial. 3rd European Workshop on Wireless Sensor Networks (EWSN), Zurich, Switzerland, February 2006.

76. Networking and Distributed Systems. Invited Tutorial. Post-Graduate Lecture Series in Computer Science, Manila, Philippines, September 2005.

77. P2P: Past 2 Present. Keynote Talk. 5th IEEE International Conference on Peer-to-Peer Computing (P2P), Constance, Germany, August 2005.

78. AlgHocNet: Algorithms for Ad Hoc Networks, Case Study Clustering. Keynote Talk. 4th Annual Mediterranean Ad Hoc Networking Workshop (MedHocNet), Ile de Porquerolles, France, June 2005.

79. Ad Hoc and Sensor Networks. Distinguished Speakers Seminar, TU Vienna, Vienna, Austria, May 2005.

80. Algorithms for Ad Hoc and Sensor Networks. Keynote Talk. IPA "Herfstdagen" fall school, Callantsoog, Netherlands, November 2004.

81. Algorithms for Ad Hoc and Sensor Networks. Plenary Speech. Colloquium Algorithms for Large and Complex Networks, Karlsruhe, Germany, July 2004.

82. Wireless Networking: Graph Theory Unplugged. Keynote Talk. 30th Workshop on Graph-Theoretic Concepts in Computer Science (WG), Bonn, Germany, June 2004.

83. Clustering and Topology Control in Ad Hoc and Sensor Networks. Keynote Talk. International Workshop on Theoretical and Algorithmic Aspects of Wireless Ad Hoc, Sensor, and Peer-to-Peer Networks (TAWN), Chicago, Illinois, June 2004.