

Christian Konrad - Curriculum Vitae

CONTACT INFORMATION	University of Warwick Department of Computer Science Coventry CV4 7AL United Kingdom	<i>Mobile:</i> (+44) (0)7397190778 <i>E-mail:</i> c.konrad@warwick.ac.uk <i>Web:</i> http://www.christiankonrad.de
	Born on July, 7th 1983 in Ingolstadt, Germany	
RESEARCH INTERESTS	Streaming Algorithms, Distributed Computing, Online Algorithms	
POSITION	University of Warwick, Dept. of Computer Science, UK Research Fellow	since Sept. 2016
DEGREES	LIAFA (now IRIF), University Paris Diderot, Paris, France <i>PhD in Computer Science</i> , Advisor: Frédéric Magniez Thesis: “Computations on Massive Data Sets: Streaming Algorithms and Two-Party Communication”	Sept. 2009 - Aug. 2013
	Technical University of Munich, Garching, Germany <i>Diplom-Informatiker Univ.</i> (equivalent to Master of Science) in Computer Science with Mathematics as minor	Oct. 2003 - June 2008
PREVIOUS EMPLOYMENTS AND INTERNSHIPS	Reykjavik University, Computer Science Dept., Iceland <i>Postdoc</i> in the group of Magnús M. Halldórsson	Sept. 2013 - Aug. 2016
	LRI, University Paris-Sud, France <i>Internship</i> working with Frédéric Magniez	May - July 2009
	INRIA, NACHOS team, Sophia Antipolis, France <i>Research engineer</i>	June 2008 - Apr. 2009
	INRIA, NACHOS team, Sophia Antipolis, France <i>Internship</i> , working on diploma thesis in scientific computing	Sept. 2007 - June 2008
	Siemens Corporate Research, Princeton, NJ, USA <i>Internship</i> , working in medical imaging	Feb. - June 2007
	KTH Stockholm, Sweden <i>Exchange student</i> , Erasmus program	Aug. 2005 - Jan. 2006
AWARDS	Best Newcomer Paper Award at ICDT 2012 Excellence PhD grant “Jean-Pierre Aguilar”, provided by the Fondation CFM pour la recherche Contrat Doctoral from University Paris-Sud (declined)	~ 80.000 € ~ 60.000 €
LANGUAGES	German (native language), English (fluent), French (fluent)	

RESEARCH VISITS	Coati, Inria Sophia Antipolis, France (1 week)	March 2016
	<i>Research visit</i> hosted by David Coudert	
	Université Pierre et Marie Curie, Paris, France (2 weeks)	Nov. 2015
	<i>Research visit</i> hosted by Christoph Dürr	
	Université Pierre et Marie Curie, Paris, France (2 weeks)	Dec. 2014
	<i>Research visit</i> hosted by Christoph Dürr	
	Padova University, Padova, Italy (1 week)	September 2014
	<i>Research visit</i> working with Francesco Silvestri	
	Madalgo and CTIC, Aarhus University, Denmark (2 weeks)	May 2012
<i>Research visit</i> working with Qin Zhang and Wei Yu		
University of Waterloo, Waterloo, ON, Canada (3 months)	Feb., March, May 2011	
<i>Visiting PhD Student</i> working with Ashwin Nayak		
Brown University, Providence, RI, USA (1 month)	April 2011	
<i>Research visit</i> working with Claire Mathieu		
CONFERENCE TALKS	“Preemptively Guessing the Center”, <i>ISCO</i> , Marrakesh, Morocco, April 2018.	
	“Improved Distributed Algorithms for Coloring Interval Graphs with Application to Multicoloring Trees”, <i>SIROCCO</i> , Porquerolles, France, June 2017.	
	“On the Power of Advice and Randomization for Online Bipartite Matching”, <i>ESA</i> , Aarhus, Denmark, August 2016.	
	“Streaming Partitioning of Sequences and Trees”, <i>ICDT</i> , Bordeaux, France, March 2016.	
	“Distributed Large Independent Sets on Bounded-independence Graphs”, <i>DISC</i> , Tokyo, Japan, October 2015.	
	“Radio Aggregation Scheduling”, <i>ALGOSENSORS</i> , Patras, Greece, September 2015.	
	“Maximum Matching in Turnstile Streams”, <i>ESA</i> , Patras, Greece, September 2015.	
	“Distributed Algorithms for Coloring Interval Graphs”, <i>DISC</i> , Austin, Texas, USA, October 2014.	
	“Robust Set Reconciliation”, <i>SIGMOD</i> , Snowbird, Utah, USA, June 2014.	
	“Approximating Semi-matchings in Streaming and in Two-party Communication”, <i>ICALP</i> , University of Latvia, Riga, Latvia, July 2013.	
	“Maximum Matching in Semi-Streaming with Few Passes”, <i>APPROX/RANDOM</i> , MIT, Cambridge, USA, August 2012.	
	“The Streaming Complexity of Validating XML Documents”, <i>ICDT</i> , Berlin, Germany, March 2012.	
	INVITED WORKSHOP TALKS	“Distributed Minimum Vertex Coloring Approximation”, <i>Workshop on Data Summarization</i> , University of Warwick, UK, March 2018.
“Streaming Algorithms for Independent Sets”, <i>Shonan Workshop on Processing Big Data Streams</i> , Shonan Village, Japan, June 2017.		
“Streaming XML”, <i>Nexus of Information and Computation Theories: Inference Problems Theme</i> , Paris, France, March 2016.		
“On the Order of Graph Streams”, <i>International Symposium on Mathematical Programming</i> , Berlin, Germany, August 2012.		
“Matching in randomly ordered Streams”, <i>TU Dortmund Workshop on Algorithms for Data Streams</i> , Dortmund, Germany, July 2012.		
“Language and Graph Problems in the Streaming Model”, <i>French - Israeli Workshop on Foundations of Computer Science</i> , Paris, France, May, 2012.		

WORKSHOP TALKS WITH SELECTION	<p>“Budget Error Correcting under Earth-Mover-Distance”, <i>French Complexity and Algorithms Workgroup (French: groupe de travail CoA)</i>, Paris, France, November 2012.</p> <p>“Semi-Streaming Algorithms for Maximum Bipartite Matching with Few Passes”, <i>French Graphs and Algorithms Workgroup (French: groupe de travail graphes)</i>, Lyon, France, November 2011.</p>	
GROUP SEMINAR TALKS	<p>2018: <i>Algorithms and Complexity group, Durham University, Durham, UK</i></p> <p>2016: <i>DIMAP, University of Warwick, Coventry, UK</i> <i>ICE-TCS, Reykjavik University, Reykjavik, Iceland</i> <i>IRIF, Université Paris Diderot, Paris, France</i> <i>Coati, Inria Sophia Antipolis, Sophia Antipolis, France</i></p> <p>2015: <i>ICE-TCS, Reykjavik University, Reykjavik, Iceland</i></p> <p>2014: <i>ICE-TCS, Reykjavik University, Reykjavik, Iceland</i> <i>University of Padova, Padova, Italy</i></p> <p>2012: <i>Lab for Foundations of CS, University of Edinburgh, Edinburgh, Scotland</i> <i>MADALGO, Aarhus University, Aarhus, Denmark</i></p> <p>2011: <i>Brown University, Providence, RI, USA</i> <i>University of Waterloo, Waterloo, ON, Canada</i> <i>Dahu, ENS Cachan, Cachan, France</i> <i>LIAFA, University Paris Diderot, Paris, France</i></p>	
TEACHING EXPERIENCE	<p>Reykjavik University, Reykjavik, Iceland Graph Theory, Lecturer</p> <p>University Paris Diderot, Paris, France Teaching Assistant (French: demi-ATER), 96 hours per year Advanced object oriented programming, C++ programming, Finite automata, Software engineering</p> <p>LRI, University Paris-Sud, Orsay, France Teaching Assistant (French: Moniteur), 64 hours per year</p> <p>Algorithms/C, Compilers and virtual machines</p> <p>Algorithms/C, Object-oriented programming</p> <p>Imperative programming, Compilers and virtual machines</p>	<p>Jan. 2015 - May, 2015</p> <p>Sept. 2012 - July 2013</p> <p>Sept. 2009 - July 2012</p> <p>2011 - 2012</p> <p>2010 - 2011</p> <p>2009 - 2010</p>
PEER REVIEW ACTIVITIES	<p>2018: SODA (3x), PODC, ICALP, SIROCCO</p> <p>2017: SODA, STOC (2x), Algorithmica (journal), ICALP (2x), PODC (2x), FOCS, ISAAC, Trans. on Parallel Computing (journal), Trans. on Algorithms (journal)</p> <p>2016: Elec. J. of Combinatorics (journal), Acta Cybernetica (journal), SODA (3x), SPAA (4x), APPROX, ESA (2x), SIROCCO</p> <p>2015: Acta Cybernetica (journal), Algorithmica (journal), ICALP (3x), TAMC, ESA</p> <p>2014: SICOMP (journal), SIDMA (journal), SODA, STOC, STACS, SWAT (2x)</p> <p>2013: ICALP, PODS, SODA, STACS</p> <p>2012: ICALP, STACS</p>	
CONFERENCE ORGANIZING COMMITTEES	<p>2016: 15th Scandinavian Symposium and Workshops on Algorithm Theory (SWAT) in Reykjavik</p>	

REFERENCES

Graham Cormode, Professor, Computer Science Department, University of Warwick

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Magnús M. Halldórsson, Professor, School of Computer Science, Reykjavik University

Web: http://www.ru.is/~mmh/index_e.html

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Frédéric Magniez, CNRS Research Director, Université Paris Diderot, France

Web: <http://www.liafa.fr/~magniez/>

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[C19] “Improved Massively Parallel Computation Algorithms for MIS, Matching, and Vertex Cover” (with Mohsen Ghaffari, Themis Gouleakis, Slobodan Mitrovic, Ronit Rubinfeld), *Symposium on Principles of Distributed Computing* (PODC 2018).

[C18] “Brief Announcement: Distributed Minimum Vertex Coloring and Maximum Independent Set in Chodal Graphs” (with Victor Zamaraev), *Symposium on Principles of Distributed Computing* (PODC 2018).

[C17] “Approximating the Caro-Wei Bound for Independent Sets in Graph Streams” (with Graham Cormode, Jacques Dark), *5th International Symposium on Combinatorial Optimization* (ISCO 2018).

[C16] “Preemptively Guessing the Center” (with Tigran Tonoyan), *5th International Symposium on Combinatorial Optimization* (ISCO 2018).

[C15] “Improved Distributed Algorithms for Coloring Interval Graphs with Application to Multicoloring Trees” (with Magnús M. Halldórsson), *Proceedings of the 24th International Colloquium on Structural Information and Communication Complexity* (SIROCCO 2017).

Invited to TCS special issue

[C14] “The Densest k -Subhypergraph Problem” (with Eden Chlamtáč, Michael Dinitz, Guy Kortsarz, George Rabanca), *Proceedings of the 19th International Workshop on Approximation Algorithms for Combinatorial Optimization Problems* (APPROX 2016).

[C13] “On the Power of Advice and Randomization for Online Bipartite Matching” (with Christoph Dürr, Marc Renault), *Proceedings of the 24th European Symposium on Algorithms* (ESA 2016).

[C12] “Streaming Algorithms for Partitioning Sequences and Trees”, *Proceedings of the 19th International Conference on Database Theory* (ICDT 2016).

[C11] “Brief Announcement: Local Independent Set Approximation” (with Marijke H. L. Bodlaender, Magnús M. Halldórsson, Fabian Kuhn), *Proceedings of the 2016 ACM Symposium on Principles of Distributed Computing*, (PODC 2016).

[C10] “Distributed Large Independent Sets on Bounded-independence Graphs” (with Magnús M. Halldórsson), *Proceedings of the 29th International Conference on Distributed Computing* (DISC 2015).

[C9] “Radio Aggregation Scheduling” (with Rajiv Gandhi, Magnús M. Halldórsson, Hoon Oh, Guy Kortsarz), *11th International Symposium on Algorithms and Experiments for Wireless Sensor Networks* (ALGOSENSORS 2015).

Invited to TCS special issue

[C8] “Limitations of Current Wireless Scheduling Algorithms” (with Magnús M. Halldórsson, Tigran Tonoyan), *11th International Symposium on Algorithms and Experiments for Wireless Sensor Networks* (ALGOSENSORS 2015).

Invited to TCS special issue

[C7] “Maximum Matching in Turnstile Streams”, *Proceedings of the 23rd European Symposium on Algorithms* (ESA 2015).

[C6] “The Minimum Vulnerability Problem on Graphs” (with Yusuke Aoki, Bjarni V. Halldórsson, Magnús M. Halldórsson, Takehiro Ito, Xiao Zhou), *Combinatorial Optimization and Applications - 8th International Conference* (COCOA 2014).

Invited to JOCO special issue

[C5] “Distributed Algorithms for Coloring Interval Graphs” (with Magnús M. Halldórsson), *Proceedings of the 28th International Conference on Distributed Computing* (DISC 2014).

[C4] “Robust Set Reconciliation” (with Di Chen, Ke Yi, Wei Yu, Qin Zhang), *Proceedings of the 2014 ACM SIGMOD International Conference on Management of Data (SIGMOD 2014)*.

[C3] “Approximating Semi-Matchings in Streaming and in Two-Party Communication” (with Adi Rosén), *Proceedings of 40th International Colloquium on Automata, Languages and Programming (ICALP 2013)*.

[C2] “Maximum Matching in Semi-Streaming with Few Passes” (with Frédéric Magniez and Claire Mathieu), *Proceedings of the 15th International Workshop on Approximation Algorithms for Combinatorial Optimization Problems (APPROX 2012)*.

[C1] “Validating XML Documents in the Streaming Model with External Memory” (with Frédéric Magniez), *Proceedings of the 15th International Conference on Database Theory (ICDT 2012)*.

Invited to TODS special issue, Best Newcomer Paper Award ¹

JOURNAL
PUBLICATIONS

[J7] “The Densest k -Subhypergraph Problem” (with Eden Chlamtáč, Michael Dinitz, Guy Kortsarz, George Rabanca), *SIAM Journal of Discrete Mathematics (SIDMA)*, to appear.

[J6] “The triangle scheduling problem” (with Christoph Dürr, Zdeněk Hanzálek, Yasmina Seddik, René Sitters, Óscar C. Vásquez and Gerhard Woeginger), *Journal of Scheduling*, to appear.

[J5] “Computing Large Independent Sets in a Single Round” (with Magnús M. Halldórsson), *Distributed Computing*.

[J4] “Approximating Semi-Matchings in Streaming and in Two-Party Communication” (with Adi Rosén), *ACM Transactions on Algorithms (TALG)*, 2016.

[J3] “The Minimum Vulnerability Problem on Specific Graph Classes” (with Yusuke Aoki, Bjarni V. Halldórsson, Magnús M. Halldórsson, Takehiro Ito, Xiao Zhou), *Journal of Combinatorial Optimization*, 2016.

[J2] “Validating XML Documents in the Streaming Model with External Memory” (with Frédéric Magniez), *ACM Transactions on Database Systems (TODS)*, 2013. (special issue for invited papers from ICDT 2012)

[J1] “Two-constraint domain decomposition with Space Filling Curves”, *Parallel Computing*, 2011.

MANUSCRIPTS

[M2] “Distributed Minimum Vertex Coloring and Maximum Independent Set in Chodal Graphs” (with Victor Zamaraev).

[M1] “MIS in the Congested Clique Model in $O(\log \log \Delta)$ Rounds”.

POSTERS

[P1] “Distributed Maximum Independent Set and Minimum Vertex Coloring Approximation” (with Magnús M. Halldórsson, Marijke H. L. Bodlaender), *29th International Conference on Distributed Computing, (DISC 2015)*.

¹From the Program Committee: The award is conferred to the best award-caliber paper by authors who haven't yet published in ICDT or PODS.