

## Christian Konrad - Curriculum Vitae

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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> <a href="http://www.christiankonrad.de">http://www.christiankonrad.de</a>
	Born on July, 7th 1983 in Ingolstadt, Germany	
RESEARCH INTERESTS	Streaming Algorithms, Online Algorithms, Distributed Computing	
POSITION	<b>University of Warwick, Dept. of Computer Science, UK</b> Research Fellow	since Sept. 2016
DEGREES	<b>LIAFA (now IRIF), University Paris Diderot, Paris, France</b> <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
	<b>Technical University of Munich, Garching, Germany</b> <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	<b>Reykjavik University, Computer Science Dept., Iceland</b> <i>Postdoc</i> in the group of Magnús M. Halldórsson	Sept. 2013 - Aug. 2016
	<b>LRI, University Paris-Sud, France</b> <i>Internship</i> working with Frédéric Magniez	May - July 2009
	<b>INRIA, NACHOS team, Sophia Antipolis, France</b> <i>Research engineer</i>	June 2008 - Apr. 2009
	<b>INRIA, NACHOS team, Sophia Antipolis, France</b> <i>Internship</i> , working on diploma thesis in scientific computing	Sept. 2007 - June 2008
	<b>Siemens Corporate Research, Princeton, NJ, USA</b> <i>Internship</i> , working in medical imaging	Feb. - June 2007
	<b>KTH Stockholm, Sweden</b> <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 <b>Fondation CFM pour la recherche</b> Contrat Doctoral from University Paris-Sud (declined)	~ 80.000 € ~ 60.000 €
LANGUAGES	German (native language), English (fluent), French (fluent)	

RESEARCH VISITS	<b>Coati, Inria Sophia Antipolis, France</b> (1 week)	March 2016
	<i>Research visit</i> hosted by David Coudert	
	<b>Université Pierre et Marie Curie, Paris, France</b> (2 weeks)	Nov. 2015
	<i>Research visit</i> hosted by Christoph Dürr	
	<b>Université Pierre et Marie Curie, Paris, France</b> (2 weeks)	Dec. 2014
	<i>Research visit</i> hosted by Christoph Dürr	
	<b>Padova University, Padova, Italy</b> (1 week)	September 2014
	<i>Research visit</i> working with Francesco Silvestri	
CONFERENCE TALKS	<b>Madalgo and CTIC, Aarhus University, Denmark</b> (2 weeks)	May 2012
	<i>Research visit</i> working with Qin Zhang and Wei Yu	
	<b>University of Waterloo, Waterloo, ON, Canada</b> (3 months)	Feb., March, May 2011
	<i>Visiting PhD Student</i> working with Ashwin Nayak	
	<b>Brown University, Providence, RI, USA</b> (1 month)	April 2011
	<i>Research visit</i> working with Claire Mathieu	
	“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	“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	“Budget Error Correcting under Earth-Mover-Distance”, <i>French Complexity and Algorithms Workgroup (French: groupe de travail CoA)</i> , Paris, France, November 2012.	
	“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.	

GROUP SEMINAR TALKS

2016: *DIMAP, University of Warwick, Coventry, UK*  
*ICE-TCS, Reykjavik University, Reykjavik, Iceland*  
*IRIF, Université Paris Diderot, Paris, France*  
*Coati, Inria Sophia Antipolis, Sophia Antipolis, France*

2015: *ICE-TCS, Reykjavik University, Reykjavik, Iceland*

2014: *ICE-TCS, Reykjavik University, Reykjavik, Iceland*  
*University of Padova, Padova, Italy*

2012: *Lab for Foundations of CS, University of Edinburgh, Edinburgh, Scotland*  
*MADALGO, Aarhus University, Aarhus, Denmark*

2011: *Brown University, Providence, RI, USA*  
*University of Waterloo, Waterloo, ON, Canada*  
*Dahu, ENS Cachan, Cachan, France*  
*LIAFA, University Paris Diderot, Paris, France*

TEACHING EXPERIENCE

**Reykjavik University, Reykjavik, Iceland** Jan. 2015 - May, 2015  
Graph Theory, Lecturer

**University Paris Diderot, Paris, France** Sept. 2012 - July 2013  
Teaching Assistant (French: demi-ATER), 96 hours per year  
Advanced object oriented programming, C++ programming, Finite automata,  
Software engineering

**LRI, University Paris-Sud, Orsay, France** Sept. 2009 - July 2012  
Teaching Assistant (French: Moniteur), 64 hours per year

Algorithms/C, Compilers and virtual machines 2011 - 2012  
Algorithms/C, Object-oriented programming 2010 - 2011  
Imperative programming, Compilers and virtual machines 2009 - 2010

PEER REVIEW ACTIVITIES

2018: SODA (3x)  
2017: SODA, STOC (2x), Algorithmica (journal), ICALP (2x), PODC (2x), FOCS,  
ISAAC, Trans. on Parallel Computing (journal)  
2016: Elec. J. of Combinatorics (journal), Acta Cybernetica (journal), SODA (3x), SPAA  
(4x), APPROX, ESA (2x), SIROCCO  
2015: Acta Cybernetica (journal), Algorithmica (journal), ICALP (3x), TAMC, ESA  
2014: SICOMP (journal), SIDMA (journal), SODA, STOC, STACS, SWAT (2x)  
2013: ICALP, PODS, SODA, STACS  
2012: ICALP, STACS

CONFERENCE ORGANIZING COMMITTEES

2016: 15th Scandinavian Symposium and Workshops on Algorithm Theory (SWAT) in Reykjavik

REFERENCES

**Graham Cormode**, Professor, Computer Science Department, University of Warwick  
Web: <http://dimacs.rutgers.edu/~graham/>  
Tel: +44 2476 523987  
Mail: G.Cormode@warwick.ac.uk

**Magnús M. Halldórsson**, Professor, School of Computer Science, Reykjavik University  
Web: [http://www.ru.is/~mmh/index\\_e.html](http://www.ru.is/~mmh/index_e.html)  
Tel: +354 599 6384  
Mail: mmh@ru.is

**Frédéric Magniez**, CNRS Research Director, Université Paris Diderot, France  
Web: <http://www.liafa.fr/~magniez/>  
Tel: +33 (0)1 57 27 94 02  
Mail: magniez@liafa.fr

[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)*.

[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 <sup>1</sup>**

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

JOURNAL  
PUBLICATIONS

[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*, to appear.

[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] “Independent Set Size Approximation in Graph Streams” (with Graham Cormode, Jacques Dark).

[M1] “Preemptive Online Partitioning of Sequences” (with Tigran Tonoyan).

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).