

Christian Konrad - Curriculum Vitae

CONTACT INFORMATION	University of Bristol Department of Computer Science Bristol BS8 1UB United Kingdom	<i>Mobile:</i> (+44) (0)7397190778 <i>E-mail:</i> christian.konrad AT bristol.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 Bristol, Dept. of Computer Science, UK Lecturer in Computer Science	since April 2018
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	University of Warwick, Computer Science Dept., Coventry <i>Research Fellow</i> working with Artur Czumaj and Graham Cormode	Sept. 2016 - March 2018
	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	<p>Durham University, Durham, United Kingdom (1 week) January 2018 <i>Research visit</i> hosted by Victor Zamaraev</p> <p>Coati, Inria Sophia Antipolis, France (1 week) March 2016 <i>Research visit</i> hosted by David Coudert</p> <p>Université Pierre et Marie Curie, Paris, France (2 weeks) Nov. 2015 <i>Research visit</i> hosted by Christoph Dürr</p> <p>Université Pierre et Marie Curie, Paris, France (2 weeks) Dec. 2014 <i>Research visit</i> hosted by Christoph Dürr</p> <p>Padova University, Padova, Italy (1 week) September 2014 <i>Research visit</i> working with Francesco Silvestri</p> <p>Madalago and CTIC, Aarhus University, Denmark (2 weeks) May 2012 <i>Research visit</i> working with Qin Zhang and Wei Yu</p> <p>University of Waterloo, Waterloo, ON, Canada (3 months) Feb., March, May 2011 <i>Visiting PhD Student</i> working with Ashwin Nayak</p> <p>Brown University, Providence, RI, USA (1 month) April 2011 <i>Research visit</i> working with Claire Mathieu</p>
CONFERENCE TALKS	<p>“Detecting cliques in CONGEST networks”, <i>DISC</i>, New Orleans, USA, October 2018.</p> <p>“A Simple Augmentation Method for Matchings with Applications to Streaming Algorithms”, <i>MFCS</i>, Liverpool, UK, August 2018.</p> <p>“Brief Announcement: Distributed Minimum Vertex Coloring and Maximum Independent Set in Chodal Graphs”, <i>PODC</i>, Egham, UK, July 2018.</p> <p>“Preemptively Guessing the Center”, <i>ISCO</i>, Marrakesh, Morocco, April 2018.</p> <p>“Improved Distributed Algorithms for Coloring Interval Graphs with Application to Multicoloring Trees”, <i>SIROCCO</i>, Porquerolles, France, June 2017.</p> <p>“On the Power of Advice and Randomization for Online Bipartite Matching”, <i>ESA</i>, Aarhus, Denmark, August 2016.</p> <p>“Streaming Partitioning of Sequences and Trees”, <i>ICDT</i>, Bordeaux, France, March 2016.</p> <p>“Distributed Large Independent Sets on Bounded-independence Graphs”, <i>DISC</i>, Tokyo, Japan, October 2015.</p> <p>“Radio Aggregation Scheduling”, <i>ALGOSENSORS</i>, Patras, Greece, September 2015.</p> <p>“Maximum Matching in Turnstile Streams”, <i>ESA</i>, Patras, Greece, September 2015.</p> <p>“Distributed Algorithms for Coloring Interval Graphs”, <i>DISC</i>, Austin, Texas, USA, October 2014.</p> <p>“Robust Set Reconciliation”, <i>SIGMOD</i>, Snowbird, Utah, USA, June 2014.</p> <p>“Approximating Semi-matchings in Streaming and in Two-party Communication”, <i>ICALP</i>, University of Latvia, Riga, Latvia, July 2013.</p> <p>“Maximum Matching in Semi-Streaming with Few Passes”, <i>APPROX/RANDOM</i>, MIT, Cambridge, USA, August 2012.</p> <p>“The Streaming Complexity of Validating XML Documents”, <i>ICDT</i>, Berlin, Germany, March 2012.</p>
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>

INVITED
WORKSHOP
TALKS

“Distributed Minimum Vertex Coloring Approximation”, *Workshop on Data Summarization*, University of Warwick, UK, March 2018.

“Streaming Algorithms for Independent Sets”, *Shonan Workshop on Processing Big Data Streams*, Shonan Village, Japan, June 2017.

“Streaming XML”, *Nexus of Information and Computation Theories: Inference Problems Theme*, Paris, France, March 2016.

“On the Order of Graph Streams”, *International Symposium on Mathematical Programming*, Berlin, Germany, August 2012.

“Matching in randomly ordered Streams”, *TU Dortmund Workshop on Algorithms for Data Streams*, Dortmund, Germany, July 2012.

“Language and Graph Problems in the Streaming Model”, *French - Israeli Workshop on Foundations of Computer Science*, Paris, France, May, 2012.

GROUP SEMINAR
TALKS

2018: *Algorithms and Complexity group, Durham University, Durham, UK*
Combinatorics Seminar, Bristol University, Bristol, UK

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

University of Bristol, Bristol, United Kingdom 2018/2019
COMS10007 Algorithms, Module Director

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

2019: SODA (2x)
2018: SODA (3x), PODC, ICALP, SIROCCO, The Computer Journal (journal), Theory of Computing Systems (journal)
2017: SODA, STOC (2x), Algorithmica (journal), ICALP (2x), PODC (2x), FOCS, ISAAC, Trans. on Parallel Computing (journal), Trans. on Algorithms (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
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

[C21] “Detecting cliques in CONGEST networks” (with Artur Czumaj), *Proceedings of the 32nd International Conference on Distributed Computing* (DISC 2018).

[C20] “A Simple Augmentation Method for Matchings with Applications to Streaming Algorithms”, *43rd International Symposium on Mathematical Foundations of Computer Science* (MFCS 2018).

[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*, 2018.

[J5] “Computing Large Independent Sets in a Single Round” (with Magnús M. Halldórsson), *Distributed Computing*, 2018.

[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 Sets in Vertex-Arrival Streams” (with Graham Cormode, Jacques Dark).

[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.