

Torsten Ueckerdt

CONTACT INFORMATION

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PERSONAL INFORMATION

Place and Date of Birth: Berlin, Germany | 28 April 1983
Citizenship: Germany
Civil status: Married, three children

EDUCATION

Karlsruhe Institute of Technology, Germany

Habilitation, Department of Mathematics **Dec 2017**
Habilitation Thesis: Coloring and Covering – Geometric Graphs and Hypergraphs.
Area of Study: Structural Graph Theory, Discrete Geometry, Extremal Graph Theory.

Technische Universität Berlin, Germany

Ph.D., Mathematics, *Summa Cum Laude* **Nov 2011**
Dissertation: Geometric Representations of Graphs with Low Polygonal Complexity.
Committee: Stefan Felsner (Supervisor), Stephen Kobourov, Jan Kratochvíl.
Area of Study: Contact and Intersection Graphs, Algorithms, Planar Graphs, Complexity.

Diploma (M.Sc.), Mathematics, *Summa Cum Laude* **April 2008**
Thesis: Calculating Short Integral Cycle Bases of Graphs.
Supervisor: Rolf H. Möhring.
Area of Study: Algorithmic Graph Theory.

EMPLOYMENT

Karlsruhe Institute of Technology – Computer Science, Germany

Postdoctoral Research Assistant **Oct 2017 – present**
“Graphs and Algorithms”
Group: Algorithmics I
Head of Group: Dorothea Wagner

Teaching on Bachelor and Master level

Lecturer and Teaching Assistant for lectures and seminars
→ Detailed List of Courses
Supervisor of 1 Bachelor student and 1 Master student
2nd Reviewer of 1 Master student

Karlsruhe Institute of Technology – Mathematics, Germany

Postdoctoral Research Assistant **Sept 2012 – Sept 2017**

“Graph Theory and Combinatorics”

Group: Discrete Mathematics

Head of Group: Maria Axenovich

Habilitation: December 2017

Teaching on Bachelor and Master level

Lecturer and Teaching Assistant for lectures and seminars

Conceptual design and realization of 2 lectures and 6 seminars

Supervisor of 1 Diploma student, 7 Bachelor students, and 4 Master students

2nd Reviewer of 3 Diploma students, 6 Bachelor students, and 3 Master students

Technische Universität Berlin, Germany

Postdoctoral Research Stipendiary **July 2012 – Aug 2012**

“Geometric Intersection Graphs”

Member of the group of Friedrich Eisenbrand

Charles University in Prague, Czech Republic

Postdoctoral Research Assistant **Aug 2011 – July 2012**

Head of Group: Jan Kratochvíl

Project supported by European Science Foundation (ESF) **Aug 2011 – July 2012**

“GraDR – Graph Drawings and Representations”

Part of the Program Graphs in Geometry and Algorithms (EuroGIGA)

Lecture “Combinatorics” taught jointly with Jiří Fiala **April 2012 – July 2012**

Technische Universität Berlin, Germany

Research Assistant **May 2008 – July 2011**

Project of German Science Foundation (DFG)

May 2008 – July 2011

“Graphenorientierungen in Ebene und Raum”

(Orientations of Graphs in the Plane and 3-Space)

Associated Member of DFG **Jan 2009 – Nov 2011**

Research Training Group *“Methods for Discrete Structures”*

Undergraduate Teaching Assistant **Oct 2004 – Aug 2007**

CONFERENCES, WORKSHOPS, AND RESEARCH STAYS

Postdoc

Order and Geometry Workshop at Gułtowy Palace, Poland **Sept 2018**

Workshop on Graph and Network Visualization at Heiligkreuztal, Germany **July 2018**
→ invited participant

Research stay at Université Libre de Bruxelles, Belgium **April 2018**

Research stay at Jagiellonian University in Kraków, Poland	Dec 2017
Research stay at Technische Universität Berlin, Germany	Nov 2017
Research stay at Jagiellonian University in Kraków, Poland	May 2017
Dagstuhl seminar: “Beyond-Planar Graphs: Algorithmics and Combinatorics” → invited participant	Nov 2016
Order and Geometry Workshop at Gułtowy Palace, Poland	Sept 2016
Bertinoro Workshop on Graph Drawing 2016, Italy → invited participant	March 2016
ANR Meeting: “Embbded Graphs and their Oriented Structures” Institut polytechnique de Grenoble, France → invited speaker	Feb 2016
GD 2015 in Los Angeles, USA	Sept 2015
Graduate Workshop: “Recent Trends in Graph Drawing: Curves, Graphs, and Intersections” California State University, Northridge, USA → invited speaker	Sept 2015
5PCC – 5th Polish Combinatorial Conference in Będlewo, Poland	Sept 2014
Research stay at Technische Universität Berlin, Germany	Sept 2014
Bertinoro Workshop on Graph Drawing 2014, Italy → invited participant	March 2014
Research stay at Technische Universität Berlin, Germany → invited speaker at Monday Lectures of Methods for Discrete Structures RTG	Oct 2013 – Nov 2013
Research stay at Durham University, GB	Oct 2013
Research stay at Eberhard Karls Universität Tübingen, Germany	Aug 2013
CanaDAM 2013 at Memorial University of Newfoundland, Canada	June 2013
Research stay at Julius-Maximilians-Universität Würzburg, Germany → invited speaker at Computer Science Colloquium	May 2013
Dagstuhl seminar: “Drawing Graphs and Maps with Curves” → invited participant	April 2013
Bertinoro Workshop on Graph Drawing 2013, Italy → invited participant	March 2013
Research stay at University of Arizona, USA	Jan 2013
SODA 2013 in New Orleans, USA	Jan 2013
Research stay at Université Libre de Bruxelles, Belgium	Nov 2012
Dagstuhl seminar: “Putting Data on the Map” → invited participant	June 2012
EuroCG 2012 in Assisi, Italy	March 2012

Bertinoro Workshop on Graph Drawing 2012, Italy → invited participant	March 2012
Workshop in Beroun, Czech Republic	Oct 2011
CSASC 2011 at Donube University Krems, Austria	Sept 2011
CanadAM 2011 at University of Victoria, Canada	May 2011

PhD Student

(Pre)Doc-Course: “Methods in Graph Drawing” Technische Universität Berlin, Germany	March 2011 – April 2011
Research stay at Jagiellonian University in Kraków, Poland	Sept 2010 – Oct 2010
3PCC – 3rd Polish Combinatorial Conference in Będlewo, Poland	Sept 2010
KolKom 2009 at Otto-von-Guericke Universität Magdeburg, Germany	Nov 2009
Research stay at Jagiellonian University in Kraków, Poland	March 2009 – April 2009
KolKom 2008 at Otto-von-Guericke Universität Magdeburg, Germany	Nov 2008
(Pre)Doc-Course: “Geometric Graphs and Orders” Technische Universität Berlin and Freie Universität Berlin, Germany	May 2008 – July 2008

Graduate Student

Workshop on Cycle and Cut Bases Eberhard Karls Universität Tübingen, Germany	May 2007
Block course: “Embeddings of Planar Graphs” Technische Universität Berlin, Germany	March 2006
Block course: “Combinatorial Optimization at Work” Zuse Institute Berlin, Germany	Oct 2005

RESEARCH

Interests

Structural Graph Theory: Especially Graph Covering and Decomposition, Extremal Problems, Sparsity, Vertex and Edge Coloring, Ramsey Theory, and Ordered Graphs.

Geometric Graph Theory: Especially Geometric Intersection and Contact Graphs, Planar Graphs, Graph Drawing, Delauney Graphs, Range Spaces, and ε -Nets.

Partially Ordered Sets (Posets): Especially Dimension Theory, Representations, Geometric Posets, Lattices, and Cover Graphs.

Geometry: Especially Discrete and Combinatorial Geometry, Geometric Arrangements, Orthogonal Surfaces, Tilings, and Polytopes.

Algorithms: Especially Optimization and Approximation, Recognition, and NP-Hardness.

Game Theory: Especially Two-Player-Games, On-Line Games on Graphs and Posets, Randomized Strategies and Nash-Equilibria.

Publications

See Attachment

TEACHING

Karlsruhe Institute of Technology, Germany

Seminars

<i>“Algorithmen für NP-schwere Probleme”</i>	summer 2018
<i>“Topics in Graph Theory and Combinatorics”</i>	summer 2016
<i>“Methods in Combinatorics”</i>	winter 2015
<i>“Graph Colouring and the Probabilistic Method”</i>	winter 2014
<i>“Topics in Graph Theory”</i>	summer 2014
<i>“Friday Seminar”</i> (group seminar)	winter 2012 – summer 2017
<i>“Extremal Set Theory”</i>	winter 2012

Lectures

<i>“Theoretische Grundlagen der Informatik”</i> (Lecturer)	winter 2018
<i>“Algorithmische Graphentheorie”</i> (Lecturer)	summer 2018
<i>“Theoretische Grundlagen der Informatik”</i> (Assistant)	winter 2017
<i>“Combinatorics”</i> (Lecturer)	summer 2017
<i>“Combinatorics in the Plane”</i> (Lecturer)	winter 2016
<i>“Advanced Mathematics II”</i> (Assistant)	summer 2016
<i>“Graph Theory”</i> (Assistant)	winter 2015
<i>“Combinatorics”</i> (Lecturer)	summer 2015
<i>“Graph Theory”</i> (Assistant)	winter 2013
<i>“Combinatorics in the Plane”</i> (Lecturer)	summer 2013

Technische Universität Berlin, Germany

Graduate Teaching Assistant

<i>Research Seminar</i> of Discrete Mathematics Group	summer 2008 – summer 2011
Student Seminar <i>“Tilings”</i>	winter 2009
Student Seminar <i>“Markov Chains and Random Sampling”</i>	winter 2008

Undergraduate Teaching Assistant

Lecture <i>“Linear and Integer Programming”</i>	summer 2007
Lecture <i>“Graphs and Network Algorithms”</i>	summer 2006, winter 2006
Lecture <i>“Computerorientierte Mathematik I und II”</i>	winter 2004 – winter 2005

REFEREE ACTIVITIES

Journals

Algorithmica • Bull. Iran. Math. Soc. • Comp. Geom.-Theor. Appl. • Discrete Appl. Math. • Discrete Math. • Electron. J. Comb. • Eur. J. Combin. • Graph Combinator. • Inform. Process. Lett. • Internat. J. Combin. • Involve • J. Comb. Theory B • J. Comb. Optim. • J. Comp. Geom. • J. Graph Algorithms Appl. • ORDER • SIAM J. Discrete Math. • Symmetry • Theor. Comput. Sci.

Conferences

SODA 2012 • ESA 2013 • GD 2013 • ICALP 2013 • GD 2014 • SoCG 2014 • SODA 2014 • SOFSEM 2014 • WG 2014 • GD 2015 • ISAAC 2015 • SODA 2015 • STACS 2015 • WG 2015 • CCCG 2016 • GD 2016 • SODA 2017 • EuroComb 2017 • SoCG 2017 • ISAAC 2017 • LATIN 2018 • SoCG 2018 • SODA 2018 • COCOON 2018 • ESA 2018 • ISAAC 2018

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