

Curriculum Vitae

Personal information

Surname(s) / First name(s)

Homepage

Nationality(-ies)

Date of birth

Wiederrecht, Sebastian

<https://www.wiederrecht.com>

German

1. November 1989

Work experience

Dates

Position held

Activity

Employer

01/06/2021 – present

Postdoctoral research assistant

Postdoctoral researcher working on structural (di)graph theory

Centre national de la recherche scientifique (CNRS)

Dates

Position held

Activity

Employer

15/04/2016 – 16/05/2021

Research and teaching assistant

conducting research on structural digraph theory and matching theory, preparing and giving exercise classes, and coordinating groups of student teaching assistants

Chair of Logic and Semantics at Technische Universität Berlin, Berlin, Germany

Dates

Position held

Activity

Employer

01/04/2015 – 30/04/2016

Student research assistant

Participated in a research project on strong edge colourings and graph powers

Lehrstuhl II für Mathematik at RWTH Aachen University, Aachen, Germany

Education and training

Dates

Qualification held

Honours

Thesis title

Supervisor

Committee

Name of organisation

Dates

Qualification held

Thesis title

Supervisor

Name of organisation

15/04/2016 – 16/05/2021

Doctor rerum naturalium (Dr. rer. nat.)

Summa cum laude

Matching Minors in Bipartite Graphs

Professor Stephan Kreutzer

Professor Reinhard Diestel, Professor Sergey Norin

Technische Universität Berlin, Berlin, Germany

01/04/2011 – 31/03/2016

Master of Science (MSc) in Mathematics

The Strong Colors of Flowers – The Structure of Graphs with Chordal Squares

Professor Eberhard Triesch

RWTH Aachen University, Aachen, Germany

Personal skills and competences

Mother tongue(s)

*Self-assessment
European level*★

English

French

German

Understanding		Speaking		Writing
Listening	Reading	Spoken interaction	Spoken production	
C2 (proficient)	C2 (proficient)	C2 (proficient)	C2 (proficient)	C2 (proficient)
A1 (beginner)	A2 (beginner)	A1 (beginner)	A1 (beginner)	A1 (beginner)

★ *Common European Framework of Reference (CEF) level*

Teaching experience

15/04/2016 –
16/05/2021

Courses taught

Teaching assistant, Technische Universität Berlin

Teaching Assistant for *Algorithmic Graph Structure Theory* (graduate course, responsible for producing exercise material and teaching exercise courses; course taught in English)

Teaching Assistant for *Discrete Structures* (undergraduate course with roughly 400 students, responsible for producing exercise material, managing student assistants, producing and supervising exams, and teaching exercise courses; course taught in German)

Teaching Assistant for *Extremal Combinatorics* (graduate course, responsible for producing exercise material and teaching exercise courses; course taught in English)

Teaching Assistant for *Game Theory* (graduate course, responsible for producing exercise material and teaching exercise courses; course taught in English)

Teaching Assistant for *Logic* (undergraduate course with roughly 400 students, responsible for producing exercise material, managing student assistants, producing and supervising exams, and teaching exercise courses; course taught in German)

01/04/2014 –
30/09/2015

Courses taught

Student teaching assistant, RWTH Aachen University

Student Assistant for *Higher Mathematics I* (undergraduate course with roughly 2000 students, teaching exercise courses; course taught in German)

Student Assistant for *Higher Mathematics II* (undergraduate course with roughly 2000 students, teaching exercise courses; course taught in German)

Student Assistant for *Higher Mathematics III* (undergraduate course with roughly 2000 students, teaching exercise courses; course taught in German)

Academic activities

2017

Member of the organising committee of the *Highlights of Algorithms* (HALG) conference 2017.

Awards

2020

Best talk award at 6th Annual International Conference on Algorithms and Discrete Applied Mathematics (CALDAM) for the presentation of the paper *Parameterized Algorithms for Directed Modular Width*.

Mentoring Activities

15/04/2016 –
16/05/2021

Teaching assistant, Technische Universität Berlin

Co-supervision of
Bachelor Theses

Rudi Schneider: *Catching an invisible robber on digraphs using few cops*

Maximilian Gorsky: *Bricks of Low Connectivity*

Henri Tannenber: *Packing and Hitting Directed Cycles in Non-Even Digraphs in Polynomial Time*

Ahmed Khelifi: *On 3-dicographs*

Co-supervision of
Master Theses

Maximilian Gorsky: *Towards a Characterization of König Graphs*

Publications

The papers marked with a ★ are part of my PhD thesis.

- 2021 ★ *The Flat Wall Theorem for Bipartite Graphs with Perfect Matchings*, with Archontia C. Giannopoulou
Extended Abstracts EuroComb 2021 (pp. 429–435). Birkhäuser, Cham.
- 2020 – *Digraphs of Directed Treewidth One*
Discrete Mathematics 343.12: 112124.
- *Parameterized Algorithms for Directed Modular Width*, with Raphael Steiner.
Conference on Algorithms and Discrete Applied Mathematics. Springer, Cham.
- 2019 – *On Polynomial-Time Congestion-Free Software-Defined Network Updates* with Saeed Akhoondian Amiri, Szymon Dudycz, Mahmoud Parham, Stefan Schmid.
2019 IFIP Networking Conference (IFIP Networking) (pp. 1-9). IEEE
- ★ *Cyclewidth and the Grid Theorem for Perfect Matching Width of Bipartite Graphs*, with Roman Rabinovich, Meike Hatzel.
International Workshop on Graph-Theoretic Concepts in Computer Science (pp. 53-65). Springer, Cham.
- 2018 – *On Chordal Graph and Line Graph Squares* with Robert Scheidweiler.
Discrete Applied Mathematics 243: 239–247
- *Congestion-Free Rerouting of Flows on DAGs* with Saeed Akhoondian Amiri, Szymon Dudycz, Stefan Schmid.
45th International Colloquium on Automata, Languages, and Programming (ICALP 2018)
- *On Perfect Linegraph Squares*, with Meike Hatzel.
International Workshop on Graph-Theoretic Concepts in Computer Science (pp. 252-265). Springer, Cham.

Accepted for Publication

- 2021⁺ – *Even Circuits in Oriented Matroids*, with Karl Heuer, Raphael Steiner.
(accepted at *Combinatorial Theory (CT)*) <https://arxiv.org/pdf/2010.08988.pdf>
- *Directed width parameters on semicomplete digraphs*, with Frank Gurski, Dominique Komander, Carolin Rehs.
(accepted at *International Conference on Combinatorial Optimization and Applications (COCOA2021)*)

Submitted and Under Preparation

- 2021⁺ ★ *A Flat Wall Theorem for Matching Minors in Bipartite Graphs*, with Archontia C. Giannopoulou
(under preparation) <https://arxiv.org/pdf/2110.07553.pdf>
- ★ *Two Disjoint Alternating Paths in Bipartite Graphs*, with Archontia C. Giannopoulou
(submitted) <https://arxiv.org/pdf/2110.02013.pdf>
- ★ *Excluding a Planar Matching Minor in Bipartite Graphs*, with Archontia C. Giannopoulou, Stephan Kreutzer.
(submitted) <https://arxiv.org/pdf/2106.00703.pdf>
- *Colouring Non-Even Digraphs*, with Marcelo Garlet Millani, Raphael Steiner.
(submitted) <https://arxiv.org/pdf/1903.02872.pdf>
- ★ *Braces of Perfect Matching Width 2*, with Archontica C. Giannopoulou, Meike Hatzel
(submitted) <https://arxiv.org/pdf/1902.06307.pdf>