

CURRICULUM VITÆ

PERSONAL INFORMATION

Name	Markus A. D. Blumenstock
Year of birth	1990
Nationality	German

PROFESSIONAL EXPERIENCE

Since 04/2021	Postdoctoral Teaching Associate (permanent) Institute of Computer Science Johannes Gutenberg University Mainz
11/2014-03/2021	Research assistant Algorithmics Group, Institute of Computer Science Johannes Gutenberg University Mainz
03/2020 – 10/2020	Parental leave (part-time, 2/3)
03/2018 – 10/2018	Parental leave (full-time)

EDUCATION

01/2015 – 11/2019	Doctorate (<i>summa cum laude</i>), University of Mainz Thesis title: <i>Pseudoforest Partitions and the Approximation of Connected Subgraphs of High Density</i> Advisor: Professor Ernst Althaus
10/2012 – 09/2014	Master of Science (grade 1.3), University of Mainz Computer science, focus on mathematics Thesis title: <i>Graph Clustering and Jaccard Similarity Estimation in Offline and Streaming Settings</i> Advisor: Professor Stefan Kramer
10/2009 – 09/2012	Bachelor of Science (grade 1.6), University of Mainz Computer science, minor in mathematics Thesis title: <i>Application-Oriented Scheduling with Eligibility Restrictions and Precedence Constraints</i> Advisor: Professor Elmar Schömer
08/2000 – 06/2009	Abitur (secondary school qualifications, grade 1.4) Graf-Stauffenberg-Gymnasium in Flörsheim am Main

RESEARCH VISITS AND INTERNSHIPS

09/2017 – 12/2017	Visiting graduate student Department of Combinatorics & Optimization University of Waterloo, Canada Supervisor: Professor Jochen Könemann
03/2012 – 09/2012	Academic visitor Department of Computer Science The University of Waikato, Hamilton, New Zealand Supervisor: Professor Bernhard Pfahringer
08/2011 – 10/2011	Internship at Raytheon Professional Services GmbH Rüsselsheim, Germany

TEACHING

Lectures given	Advanced Algorithms (3x) Complexity Theory II (2x) Data Structures and Efficient Algorithms Computability, Unprovability, and the Infinite (2x) Formal Languages and Computability
Theses supervised	Bachelor theses (2x supervisor, 8x second referee)
Seminars	Algorithms (2x) Algorithms and Complexity Formal languages and Computability The Modern Algorithmic Toolbox
Head teaching assistant	Advanced Algorithms (3x) Complexity Theory (2x) Computability, Unprovability, and the Infinite (2x) Data Structures and Efficient Algorithms (2x) Formal Languages and Computability (3x) Game Theory (2x)
Lab courses	Advanced Algorithms (3x) Approaching Programming Contests (2x) Efficient Algorithms and Data Structures (2x) First-semester project (6x)

PUBLICATIONS

- 01/2020 M. Blumenstock and F. Fischer. A Constructive Arboricity Approximation Scheme. In *Proceedings of the 46th International Conference on Current Trends in Theory and Practice of Computer Science (SOFSEM 2020)*. Lecture Notes in Computer Science, Vol. 12011, pp. 51–63. Springer, 2020. DOI: https://doi.org/10.1007/978-3-030-38919-2_5
- 01/2020 M. Blumenstock. Pseudoforest Partitions and the Approximation of Connected Subgraphs of High Density. *PhD thesis*, Johannes Gutenberg University Mainz, 2020. https://www.algorithmics.informatik.uni-mainz.de/files/2020/06/Blumenstock_Dissertation.pdf
- 01/2016 M. Blumenstock. Fast Algorithms for Pseudoarboricity. In *Proceedings of the Eighteenth Workshop on Algorithm Engineering and Experiments (ALENEX 2016) in Arlington, Virginia, USA, January 2016*, pp. 113–126. Society for Industrial and Applied Mathematics, 2016. <https://doi.org/10.1137/1.9781611974317.10>
- 12/2014 E. Althaus, M. Blumenstock, A. Disterhoft, A. Hildebrandt, and M. Krupp. Algorithms for the Maximum Weight Connected k -Induced Subgraph Problem. In *8th International Conference on Combinatorial Optimization and Applications (COCOA 2014)*, Wailea, Hawaii, USA, December 2014. Lecture Notes in Computer Science, Vol. 8881, pp. 268–282. Springer, 2014.

SCIENTIFIC SERVICE

- Past and present Participation in various committees: Senate Committee on Information Technology and Digital Processes, Professorship Appointment, Computer Commission, Committee on Studies and Teaching
- Past and present Reviews for Conferences: ESA '24, ICALP '22
Reviews for Journals: *Math. Programming Computation*, 2015
- 2016, 2017 Judge for the *German Collegiate Programming Contest*
- 2015, 2016 Coach at the *ICPC Northwestern Europe Regional Contest*

PRIZES AND SCHOLARSHIPS

2023	<i>JGU Teaching Prize</i> University of Mainz
09/2017 – 12/2017	Scholarship of the German Academic Exchange Service
2015	<i>Book Prize</i> for the master thesis Verein der Freunde für Informatik in Mainz e. V.
2012	<i>Faculty Prize for Excellent Theses</i> for the bachelor thesis Faculty for Physics, Mathematics and Computer Science University of Mainz

LANGUAGES

German	Native
English	Proficient Cambridge Certificate in Advanced English, grade A
Latin	Latinum (high-school certificate)
Ancient Greek	Graecum (high-school certificate)
Brazilian Portuguese	Basics

OTHER VOLUNTARY WORK

09/2010 – 06/2017	Youth Work (age 6-10 years) Volunteer Fire Brigade Eddersheim
03/2009 – 12/2014	Emergency management in the Main-Taunus district Volunteer Fire Brigade Eddersheim (until 06/2011: in lieu of mandatory military service)