Curriculum Vitae

Sarah Maria Morell
Researcher at University of Bremen, Germany

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Academic Positions

Researcher (with tenure track to Senior Researcher) Oct 2025 – present
University of Bremen, Germany

Postdoctoral Researcher Apr 2025 – Sep 2025
University of Bremen, Germany
Supervisor: Prof. Dr. Nicole Megow

Education

PhD in Mathematics Sep 2018 – Mar 2025
Technische Universität Berlin, Germany
PhD Thesis: *Flow-based Problem Solving in Combinatorial Optimization*
Supervisor: Prof. Dr. Martin Skutella

Master in Mathematics (and Minor in Computer Science) Sep 2015 – Jul 2018
École Polytechnique Fédérale de Lausanne (EPFL), Switzerland
Master Thesis: *Algorithms for Diversity Maximization*
Supervisor: Prof. Dr. Friedrich Eisenbrand

Bachelor in Mathematics Sep 2009 – Feb 2014
École Polytechnique Fédérale de Lausanne (EPFL), Switzerland

Abitur (High School Diploma) – Jul 2008
Gymnasium Eckhorst, Bargteheide, Germany

Parental Leave

Two children, born in May 2021 and May 2023
Maternity leave: Apr – Oct 2021, Apr 2023 – Apr 2024.
Part time work: Oct 2021 – Nov 2022, May – Jul 2024, Oct 2025 – present.

Publications

Unsplittable Transshipments with S. Debgupta and M. Skutella 2026
In: *Proceedings of ICALP 2026.*

Flow-based Problem Solving in Combinatorial Optimization 2025
PhD Thesis, Technische Universität Berlin, 2025.

The Submodular Santa Claus Problem with E. Bamas and L. Rohwedder 2025
In: *Proceedings of SODA 2025.*

Single Source Unsplittable Flows with arc-wise lower and upper Bounds 2022
with M. Skutella
In: *Mathematical Programming*, 195(1), 1–35. Extended abstract: *IPCO 2020.*

Minimum-cost Integer Circulations in Given Homology Classes 2021
with I. Seidel and S. Weltge
In: *Proceedings of SODA 2021.*

Diversity Maximization in Doubling Metrics 2018
with A. Cevallos and F. Eisenbrand
In: *Proceedings of ISAAC 2018.*

Events and Talks

Hausdorff Research Institute for Mathematics, Bonn, Germany May 2026
Follow-Up Workshop of the Program *Discrete Optimization* (by invitation)
Talk: *Unsplittable Transshipments*

CNRS Centre Paul Langevin, Aussois, France Jan 2026
Workshop *Combinatorial Optimization* (by invitation)

Institut d'Études Scientifiques de Cargèse (IESC), France Sep 2025
Workshop *Combinatorial Optimization* (by invitation)
Talk: *Unsplittable Transshipments*

Max Planck Institute for Informatics, Saarbrücken, Germany Nov 2024
Talk: *The Submodular Santa Claus Problem*

École Polytechnique Fédérale de Lausanne, Switzerland Sep 2024
Summer School *Synergies of Combinatorics and TCS*

CNRS Centre Paul Langevin, Aussois, France Jan 2024
Workshop *Combinatorial Optimization* (by invitation)

École Polytechnique Fédérale de Lausanne, Switzerland Jul 2022
Summer School and Workshop *Modern Trends in Combinatorial Optimization* (workshop by invitation)

FUTURIUM, Berlin, Germany Jul 2022
German-wide event *The 7 Greatest Mathematical Adventures*
Public introductory talk: *P versus NP* with Prof. Dr. Martin Skutella

Hausdorff Research Institute for Mathematics, Bonn, Germany Dec 2021
Workshop *Parametrized Complexity and Discrete Optimization* as part of the Program *Discrete Optimization* (by invitation)

Hausdorff Research Institute for Mathematics, Bonn, Germany Nov 2021
Workshop *Approximation and Relaxation* as part of the Program *Discrete Optimization* (by invitation)
Talk: *Unsplittable Flows and Their Application in Machine Scheduling*

Mathematisches Forschungszentrum Oberwolfach, Germany Nov 2021
Workshop *Combinatorial Optimization* (by invitation)
Talk: *Single Source Unsplittable Flows*

Technical University Chemnitz, Germany (online) Sep 2020
DMV (German Mathematical Society) Annual Meeting
Talk: *Single Source Unsplittable Flows*

Schloss Dagstuhl, Leibniz Center for Informatics, Germany Feb 2020
Seminar *Scheduling* (by invitation)

CNRS Centre Paul Langevin, Aussois, France Jan 2020
Workshop *Combinatorial Optimization* (by invitation)
Talk: *Single Source Unsplittable Flows*

Technical University Munich, Germany Nov 2019
Talk: *Single Source Unsplittable Flows*

University of Michigan, Ann Arbor, USA May 2019
IPCO Summer School

École Polytechnique Fédérale de Lausanne, Switzerland Mar 2019
Talk: *Single Source Unsplittable Flows*

Simons Institute for the Theory of Computing, Berkeley, USA Dec 2018
Reunion Workshop *Bridging Continuous and Discrete Optimization*

Mathematisches Forschungszentrum Oberwolfach, Germany Nov 2018
Workshop *Combinatorial Optimization* (by invitation)

Simons Institute for the Theory of Computing, Berkeley, USA Aug – Dec 2017
Program *Bridging Continuous and Discrete Optimization*

Research Stays

Maastricht University, Netherlands Feb – Mar 2023
Visiting Prof. Dr. Lars Rohwedder

Technical University Munich, Germany Mar – Apr 2020
Visiting Prof. Dr. Stefan Weltge

Teaching at University of Bremen, Germany

Seminar on Metaheuristics (Course Instructor) Spring 2026
Bachelor's program in Business Informatics and CS, 9 participants

Operations Research (Course Instructor) Fall 2025
Bachelor's program in Business Informatics and CS, 80 participants

Algorithmic and Discrete Mathematics (ADM) (TA) Spring 2025
Bachelor's program in Mathematics, 5 participants

Teaching at Technische Universität Berlin, Germany

Introduction to Linear and Discrete Optimization (ADM I) (TA) Fall 2024
Bachelor's program in Mathematics, 50 participants

Stochastics for Computer Science (TA) Spring 2024
Bachelor's program in Engineering Sciences, 600 participants

Analysis I and Linear Algebra (TA) Fall 2022
Bachelor's program in Engineering Sciences, 1000 participants

Discrete Optimization (ADM II) (TA) Spring 2022
Master's program in Mathematics, 20 participants

Computer-Oriented Mathematics (TA and plenary tutorial) Spring 2019 – Fall 2020
Bachelor's program in Mathematics, 250 participants

Linear Algebra (TA and plenary tutorial) Fall 2018
Bachelor's program in Engineering Sciences, 800 participants

Teaching at EPFL, Switzerland

Advanced Linear Algebra (TA) Spring 2018
Bachelor's program in Mathematics, 80 participants

Discrete Optimization (TA) Spring 2018
Bachelor's program in Mathematics, 40 participants

Other Skills

Programming
Python (working knowledge), C/C++ (basic knowledge)

Languages
German (native), English (fluent), French (fluent)