Christiane Schmidt

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Research Interests

Computational Geometry
Air Traffic Management
Mathematical Optimization
Approximation Algorithms
Online Algorithms
Combinatorial Optimization
Distributed Algorithms
Planning for Railway Transport

Work Experience

03/2022- **Senior Associate Professor (biträdande professor)**, *Linköpings universitet*, Communications and Transport Systems Division of the Department of Science and Technology.

PI: Optimization Methods for Large Air Traffic Management Problems (OPT@ATM), NEtworK Optimization for CarSharing Integration into a Multimodal TRANSportation System (EkoCS-Trans); Capacity Modeling and Shift Optimization for Train Dispatchers (CAPMO-Train); Dispatching Areas: Combinations and Design (DACoD); Reducing Aviation GHG Emissions: Optimized Routes, Drop-in Fuels and Incentives (RAGE); Prestudy Intermodala stationer Sverige (ISS)

Research within the projects: Illuminate, Fr8Rail II, Fr8Rail III, SOS, OSKAR, OWL, OWL2,New paradigms for autonomous unmanned air trafiic management

Lecturer for Air Traffic and Air Transportation, Planning of Air Traffic, and English for Logisticians; supervision of bachelor and master theses and student projects

Lecturer for PhD courses "Design and Analysis of Algorithms" parts 1,2, and "Scientific Writing in English"

Supervision of Rabii Zahir, PhD student (since 04/2021); co-supervision of Liyun Yu, PhD student (since 04/2021); co-supervision of Anna Brötzner, PhD student (since 08/2022); co-supervisionm of David Dekker, PhD Student (since 09/2023)

Within various research projects cooperation with different companies, government agencies and enterprises: Several projects with LFV, three projects with trafikverket, and one project with VTI. All projects have reference groups, where we present our work to various other actors (Swedavia, Transportstyrelsen, Eurocontrol, Green Cargo, Stockholm city, etc.).

04/2020–
02/2022

Senior Lecturer/Associate Professor (universitetslektor), *Linköpings universitet*, Communications and Transport Systems Division of the Department of Science and Technology.

PI: NEtworK Optimization for CarSharing Integration into a Multimodal TRANSportation System (EkoCS-Trans), Capacity Modeling and Shift Optimization for Train Dispatchers (CAPMO-Train); research within the projects: CAPMOD, Fr8Hub, Fr8Rail II, Fr8Rail III, SOS, OSKAR

Lecturer for Air Traffic and Air Transportation, Planning of Air Traffic, and English for Logisticians; supervision of bachelor and master theses and student projects

Lecturer for PhD courses "Design and Analysis of Algorithms" parts 1,2, and "Scientific Writing in English".

Supervision of Rabii Zahir, PhD student (since 04/2021); co-supervision of Liyun Yu, PhD student (since 04/2021) Nisha Mishra, PhD student (06/2019-03/2021)

Within various research projects cooperation with different companies, government agencies and enterprises: Several projects with LFV, three projects with trafikverket, and one project with VTI. All projects have reference groups, where we present our work to various other actors (Swedavia, Transportstyrelsen, Eurocontrol, Green Cargo, Stockholm city, etc.).

11/2017–
03/2020

Assistant Professor (biträdande universitetslektor), *Linköping universitet*, Communications and Transport Systems Division of the Department of Science and Technology.

PI within the NEtworK Optimization for CarSharing Integration into a Multimodal TRANSportation System (EkoCS-Trans) project; research within the projects: "Optimal design of terminal airspace (ODESTA)", "Kompetens, kapacitet och optimering i digital flygledningscentral" (KODIC II), CAPMOD, ARCC, Fr8Hub, Fr8Rail II.

Lecturer for Basic Logistic Algorithms, Air Traffic and Air Transportation, Scientific Writing in English in Case Studies in Air Traffic and Logistics; supervision of bachelorand master theses and student projects.

Lecturer for PhD courses "Design and Analysis of Algorithms".

Within various research projects cooperation with different companies, government agencies and enterprises: Several projects with LFV, three projects with trafikverket, and one project with VTI. All projects have reference groups, where we present our work to various other actors (Swedavia, Transportstyrelsen, Eurocontrol, Green Cargo, Stockholm city, etc.).

09/2015–10/2017 **Postdoctoral Researcher**, *Linköping universitet*,
Communications and Transport Systems Division of the Department of Science and Technology, ODESTA project.

Research within the project "Optimal design of terminal airspace (ODESTA)", funded by Vinnova (Sweden's innovation agency).

Lecturer for Air Traffic and Air Transportation, Scientific Writing in English in Case Studies in Air Traffic and Logistics; supervision of bachelor theses and student projects.

09/2014 - 08/2015 **Postdoctoral Researcher**, *HUJI Jerusalem*,
The Rachel and Selim Benin School of Computer Science and Engineering, hosted by Prof.Yuval Rabani, Supported by the Israeli Centers of Research Excellence (I-CORE) program (Center No. 4/11).

12/2013 - 08/2014 **Research assistant and lecturer**, *TU Braunschweig*,
Algorithms Group, Institute for Operating Systems and Computer Networks (with Prof. Dr. Sándor P. Fekete).

Lecturer for Computational Geometry and Network Algorithms

06/2013-11/2013 **Postdoctoral Fellowship by the DAAD (German Academic Exchange Service)**, *SUNY Stony Brook, NY, USA*,
Department for Applied Math and Statistics, under supervision by Prof. Dr. Joseph S.B. Mitchell.

10/2007-05/2013 **Research assistant and assistant lecturer**, *TU Braunschweig*,
Algorithms Group, Institute for Operating Systems and Computer Networks (with Prof. Dr. Sándor P. Fekete).

Assistant lecturer for: Network Algorithms, Combinatorial Algorithms, Algorithms and Data Structures, Mathematical Methods for Algorithms, Distributed Algorithms, Online Algorithms, Computational Geometry, Approximation Algorithms, several Seminars; supervision of up to 9 student assistants (teaching assistants) at a time; supervision of bachelor and master theses; preparation of tutorials, homework assignments and exams;

Research within two research projects funded by the German Research Foundation;

Decentral equal opportunity commissioner (since December 2008), in this role participation in committees of academic self-administration (e.g., faculty board).

05/2006–09/2007 **Research assistant**, *TU Braunschweig*,
Institute of Mathematical Optimization (with Prof. Dr. Sándor P. Fekete).

08/2003-09/2003 **Internship**, *Siemens (Transportation Systems)*,
Braunschweig.

11/2002–03/2006 **Student assistant**, *TU Braunschweig*,
Institute of Mathematical Optimization.

Academic Studies

11/2020 **Docent in infrainformatics**, *at Linköping University*,
Similar to the habilitation qualification in Germany and elsewhere in Europe.

06/2011 **PhD (Dr.rer.nat.) at TU Braunschweig. Dissertation "Algorithms for Mobile Agents with Limited Capabilities"**, .
Advisor: Prof. Dr. Sándor P. Fekete (TU Braunschweig), Examination board: Prof. Joseph S. B. Mitchell (State University of New York at Stony Brook), Prof. Dr. Marcus Magnor (TU Braunschweig).

03/2006 **Diploma (Master's degree equivalent) in "Financial and Business Mathematics" at TU Braunschweig. Diploma thesis "Polygon Exploration with Scan Costs"**.

10/2000–02/2006 **Studies of "Financial and Business Mathematics"**, *at TU Braunschweig*,
Major in mathematical optimization.

Honors

06/2006 **honored for outstanding collegiate achievements by the Carl-Friedrich-Gauß faculty**, *TU Braunschweig*.

06/2003 **honored for outstanding collegiate achievements by the Carl-Friedrich-Gauß faculty**, *TU Braunschweig*.

Education

08/1993–06/2000 **Academic high school (Gymnasium Fallersleben)**, *Wolfsburg*.

Project Grants and Scholarships

03/2025-02/2028 **PI for Trafikverket-funded project Reducing Aviation GHG Emissions: Optimized Routes, Drop-in Fuels, and Incentives (RAGE)**,
One PhD student and three senior researchers (parttime) working in the project, 4. 954m SEK (≈ 430k €) .

04/2024-09/2026 **PI for Trafikverket-funded project Dispatching Areas: Combinations and Design (DACoD)**,
One PhD student and two senior researchers (parttime) working in the project, 3.26m SEK (≈ 285k €).

02/2024-01/2025 **PI for Trafikverket-funded prestudy Intermodala stationer Sverige (ISS)**, 0.6m SEK (≈ 53k €).

2022-2025 **PI for OPT@ATM: Optimization Methods for Large Air Traffic Management Problems, Vetenskapsrådet**,
Four senior researchers working parttime in the project, 3.992m SEK (≈ 380k €).

2022-2025 **Co-Applicant for Illuminate: provably good algorithms for guarding problems, Vetenskapsrådet**,
PI: Bengt J. Nilsson, 3.7m SEK (≈ 370k €) .

04/2021-03/2024 **PI for Trafikverket-funded KAJT project Capacity Modeling and Shift Optimization for Train Dispatchers (CAPMO-Train)**,
One PhD student and four senior researchers (parttime) working in the project, 3.4m SEK (≈ 340k €).

2021-2023 **Co-Applicant for Trafikverket-funded KAJT project Stora Omplaneringar Sent (SOS) (Extensive Replanning Late)**,
One PhD student and three senior researchers (parttime) working in the project, PI: Anders Peterson, 2.6m SEK (≈ 260k €).

2019-2023 **Co-Applicant: New paradigms for autonomous unmanned air traffic management, Vetenskapsrådet** ,
PI: Valentin Polishchuk, 3.96m SEK (≈ 390k €) .

12/2018-12/2022 **PI for VINNOVA-funded project NEtworK Optimization for CarSharing Integration into a Multimodal TRANSportation System (EkoCS-Trans)**,
One PhD student and three senior researchers (parttime) working in the project, 5.5m SEK (≈ 550k €).

09/2014-08/2015 **Postdoctoral Fellowship from the ICORE ALGO**,
grant for a one-year stay at the Rachel and Selim Benin School of Computer Science and Engineering, HUJI, Israel, $\approx 2250€\backslash$ month.

08/2014 **Travel grant from the German Academic Exchange Service (DAAD) for the Canadian Conference on Computational Geometry (CCCG) 2014**,
≈ 2000 €.

06/2013-11/2013 **Postdoc Program of the German Academic Exchange Service (DAAD)**,
grant for a six-month stay at the Department of Applied Mathematics and Statistics, State University of New York at Stony Brook, NY, USA, $\approx 2600€\backslash$ month.

Summer Schools and Other Workshops

06/2012 **Accepted into the AMS (American Mathematical Society) Mathematics Research Communities program in Discrete and Computational Geometry, 2012**,
Organizers:,
Satyan Devadoss (Williams College, USA), Vida Dujmovic (Carleton University, Canada), Joseph O'Rourke (Smith College, USA), Yusu Wang (The Ohio State University, USA).

07/2009 **Accepted into the JAIST summer school on Computational Geometry and Graphs, 2009**, *Hakusan, Japan*,
Lectureres:, Tetsuo Asano (JAIST, Japan), Sergey Bereg (Univ. of Texas at Dallas, USA), Jack Snoeyink (Univ. of North Carolina, at Chapel Hill, USA), Ryuhei Uehara (JAIST, Japan).

Invited Workshops

(Participation by Invitation only)

May 2021 **Dagstuhl Seminar Computational Geometry**, *Organizers:*,
Siu-Wing Cheng (HKUST), Anne Driemel (Uni Bonn), and Jeff M. Phillips (University of Utah), Schloss Dagstuhl, Germany / virtual.

August 2019 **Bertinoro Workshop on Distributed Geometric Algorithms**, *Organizers:*,
Irina Kostitsyn (TU Eindhoven), Christian Scheideler (Paderborn University), Bertinoro, Italy.

March 2019 **34th Bellairs Winter Workshop on Computational Geometry**, *Organizers:*,
Erik Demaine (M.I.T.), Godfried Toussaint (New York University Abu Dhabi), Holetown, Barbados.

March 2018 **33rd Bellairs Winter Workshop on Computational Geometry**, *Organizers:*,
Erik Demaine (M.I.T.), Godfried Toussaint (New York University Abu Dhabi), Holetown, Barbados.

March 2015 **30th Bellairs Winter Workshop on Computational Geometry**, *Organizers:*,
Erik Demaine (M.I.T.), Godfried Toussaint (New York University Abu Dhabi), Holetown, Barbados.

March 2014 **29th Bellairs Winter Workshop on Computational Geometry**, *Organizers:*,
Erik Demaine (M.I.T.), Godfried Toussaint (New York University Abu Dhabi), Holetown, Barbados.

September 2009 **Algorithmic Methods for Distributed Cooperative Systems**, *Organizers:*,
Sándor Fekete (TU Braunschweig, Germany), Stefan Fischer (Universität Lübeck, Germany), Martin Riedmiller (Universität Osnabrück, Germany), Suri Subhash (Univ. California - Santa Barbara, USA), Schloss Dagstuhl, Germany.

October 2006 **Robot Navigation** , *Organizers:*,
Sándor Fekete (TU Braunschweig, Germany), Rudolf Fleischer (Fudan University - Shanghai, China), Rolf Klein (Universität Bonn, Germany), Alejandro Lopez-Ortiz (University of Waterloo, Canada), Schloss Dagstuhl, Germany.

Institutional Service

01/2021– **Standby member of ITN board**, *Linköping University*.

2008-2014 **Decentral equal opportunity commissioner**, *TU Braunschweig*,
in this role participation in committees of academic self-administration (e.g., faculty board, search committees).

Non-Academic Outreach

11/2023– **Adviser of the European Network on Impact of Climate Change on Aviation (EN-ICCA)**.

01/2022– **Member of the European Union Aviation Safety Agency (EASA) Scientific Committee**.

2021 **Talk at the Saab-NTU Joint Lab Quarterly Webinar series**, *https://www.youtube.com/watch?v=whjePq_yEJk*.

2019 **Interview svt nyheter Öst,** , *https://www.svt.se/nyheter/lokalt/ost/bade-gott-om-och-ont-om-plats-for-fler-tag?fbclid=IwAR26iB6JoXob6tnxF2-eSao0Y5wa83i4Ivte2MzETp3WDUyFld8SXQpSvr0*.

2006-2013 **Co-organization and presentation of exhibits at TU night and TU day (open house at TU Braunschweig) during my years there** , *for example, 2012 Museumswächter und algorithmische Geometrie= Museum Guards and Computational Geometry https://www.tu-braunschweig.de/Medien-DB/presse/tunight/2012_web_programmheft_tu-night_2012.pdf*.

Organization

2027 **43rd European Workshop on Computational Geometry, EuroCG 2027, Norrköping**.

2026 **Workshop on Digital Air Traffic Services: Workload and Safety Assessment, Norrköping**.

2025 **Workshop on Digital Air Traffic Services: Workload and Safety Assessment, Norrköping**.

2024 **Workshop on Digital Air Traffic Services: Workload and Safety Assessment, Norrköping**.

2023 **Workshop on Digital Air Traffic Services: Workload and Safety Assessment, Norrköping**.

2021 **Workshop on Digital Air Traffic Services: Workload and Safety Assessment, Norrköping**.

2020 **Workshop on Digital Air Traffic Services: Workload and Safety Assessment, Norrköping**.

2019 **Local Organization Committee Rail Norrköping, Norrköping**.

2019 **Workshop on Digital Air Traffic Services: Workload and Safety Assessment, Norrköping**.

2017 **Organizing committee of European Workshop on Computational Geometry, EuroCG 2017, Malmö**.

2013 **Organizing committee of European Workshop on Computational Geometry, EuroCG 2013, Braunschweig**.

Program Committees

2027 **Co-chair of programm committee of the 43rd European Workshop on Computational Geometry, EuroCG 2027**.

2026 **Member of programm committee of the 42nd European Workshop on Computational Geometry, EuroCG 2026**.

2026 **Member of programm committee of the the US-Europe Air Transportation Research & Development Symposium (ATRD 2026)**.

2025 **Member of programm committee of the 20th International Conference and Workshops on Algorithms and Computation (WALCOM 2026)**.

2025 **Member of informal programm committee of the 32nd Fall Workshop on Computational Geometry (FWCG) 2025**.

2025 **Member of programm committee of the Symposium on Algorithmic Approaches for Transportation Modeling, Optimization and Systems (ATMOS 2025)**.

2025 **Member of programm committee of the 37th Canadian Conference on Computational Geometry (CCCG 2025)**.

2025 **Member of programm committee of the Third SIAM Conference on Applied and Computational Discrete Algorithms (ACDA25)**.

2025 **Member of programm committee of the 41st European Workshop on Computational Geometry, EuroCG 2025**.

2024 **Member of programm committee of the 32nd European Symposium on Algorithms (ESA), Track B, 2024**.

2024 **Member of programm committee of the 40th European Workshop on Computational Geometry, EuroCG 2024**.

2023 **Member of programm committee of the Computational Geometry: Young Researchers Forum (CG:YRF) 2023**.

2023 **Member of programm committee of the 39th European Workshop on Computational Geometry, EuroCG 2023**.

2022 **Member of programm committee of the 38th Symposium on Computational Geometry, SoCG 2022**.

2022 **Member of programm committee of the 38th European Workshop on Computational Geometry, EuroCG 2022**.

2020 **Member of Technical Program Committee EWGT2020 (Euro Working Group on Transportation)**.

2019 **Video/Multimedia session Chair for SoCG'19**.

2019 **Member of program committee of Rail Norrköping, 8th International Conference on Railway Operations Modelling and Analysis, 2019**.

2018 **Member of informal program committee of the Fall Workshop on Computational Geometry (FWCG), 2018**.

2018 **Member of program committee of European Workshop on Computational Geometry, EuroCG 2018**.

2017 **Member of program committee of European Workshop on Computational Geometry, EuroCG 2017**.

2015 **Member of The 24th Multimedia Exposition in Computational Geometry, a part of CG Week 2015**.

2014 **Member of technical program committee of Algosensors 2014**.

2013 **Member of program committee of European Workshop on Computational Geometry, EuroCG 2013**.

2013 **Member of video/multimedia committee of SoCG 2013, ACM Symposium on Computational Geometry**.

Associate Editor

2020- **The Aeronautical Journal**.

Guest Co-editor

2017/2018 **Guest co-editor for the CGTA special issue on EuroCG 2017**.

Referee Service

AMS Mathematical Reviews.

Sporadical refereeing for:,
for: Annual/International Symposium on Computational Geometry; Algorithmica; Algosensors; Computational Geometry: Theory and Applications; Computers and Operations Research; Concurso Latinoamericano de Tesis de Maestría; Discrete & Computational Geometry; European Symposium on Algorithms; Euro Working Group on Transportation; Fundamenta Informaticae; IEEE Transactions on Robotics; International Conference on Algorithms and Complexity; International Conference on Distributed Computing in Sensor Systems; International Colloquium on Structural Information and Communication Complexity; International Journal of Computational Geometry and Applications; International Symposium on Algorithms and Computation; International Symposium on Distributed Computing; International Symposium on Experimental Algorithms; International Symposium on Mathematical Foundations of Computer Science; International Symposium on Theoretical Aspects of Computer Science; International Workshop on the Algorithmic Foundations of Robotics; Netherlands Organisation for Scientific Research (NWO); Public Transport; Scandinavian Symposium and Workshops on Algorithms Theory; Soft Computing; Symposium on Parallelism in Algorithms and Architectures; The Aeronautical Journal; Workshop on Approximation and Online Algorithms.

Teaching Qualification

2018-2019 **Course Research Supervision**, *Advanced Course in Higher Education Pedagogy, 4 ECTS credits, September 2018-January 2019*.

2017-2018 **Course Design, Examination and Evaluation**, *Advanced Course in Higher Education Pedagogy, 6 ECTS credits, September 2017-January 2018*.

2014 **Participation in teach4TU basis qualification from February 2014 to July 2014**, *qualification scheme for professionalism in teaching*.

Supervision of Students/Theses

August 21, 2023– **Co-supervision David Dekker**, *PhD student*,
main supervisor: Anders Peterson.

August 15, 2022– **Co-supervision Anna Brötzner**, *PhD student*,
main supervisor: Bengt J. Nilsson, Malmö university.

May 1, 2021– **Co-supervision Liyun Yu**, *PhD student*,
main supervisor: Anders Peterson.

April 15, 2021– **Supervision Rabii Zahir**, *PhD student*.

June 10, 2019–March 30, 2021 **Co-supervision Nisha Mishra**, *PhD student*, main supervisor: Valentin Polishchuk.

2007–now **Supervision of Master theses**,
2022, Måns Alskog, Implementation of a nearly-linear time approximation algorithm for scheduling; 2019, Alice Lindberg, Algoritmer för pålitliga rutter i kollektivtrafiken; 2018, Valeria Palade Cherkásova, Workload in Remote Towers—an Analysis of Empirical Data; 2017, Fredrik Ljunggren, Kristian Persson, Algorithm for inserting a single train in an existing timetable, Linköping University; 2012, Stephan Friedrichs, Integer Solutions for the Art Gallery Problem using Linear Programming, TU Braunschweig; 2012, Sophia Scholtka, Minimum Relay Triangulation in Orthogonal Polygonal Regions, TU Braunschweig; 2007/2008, Marina Tvorogova, Optimization Methods for Traffic Flow, TU Braunschweig.

2008–now **Supervision of Bachelor theses**,
2025, Henrik Andersson, Dynamisk behovsestimering av bagagetransportörer; 2024, Mikaela Karlsson and Filip Knutsson, Strategisk Planering av Piloter En Djupgående Analys av Schemaläggnings-strategier på TUI fly Nordic; 2024, Johanna Lindberg and Stina Andersson, Utredning av behovet för fraktflyg på Norrköpings flygplats; 2023, Ashur Al-Nazary and Randy Youssef, Klimatförändringens påverkan på flyg inom Sverige; 2023, Erik Johansson and Samuel Seger, Managing Effective Flows in Warehouse Packing Stations—A Case Study; 2023, Inez Ondracek Hellgren, Kartläggning av riskerna i försörjningskedjan av materialet volframkarbid; 2023, Kim Gustafsson and Olle Larsson, Kartläggning av Lagerprocesser: Effektivisering av intern Transport på Proton Finishings anläggning i Hillerstorp; 2022, Rasmus Eriksson and Niklas Herkevall, Job Shop Scheudling of Cold Rolling Mills in the Aluminium Industry; 2021, Gabirel Hanna and Rami Sibai, Effektivisering av Distributionssystem för Norrköpings Mejeri AB; 2021, Janina Swahn and Frida Strömberg, Förslag på mätetal för uppföljning av Trafikverkets operativa utbildningsinsatser; 2020, Thomas Nguyen, Möjligheten till kostnadsbesparingar genom processkartläggning och tidsstudier av aktiviteter på godsmottagningen vid ett centrallager; 2020, Elena María Cabrera Criado, Demand/Capacity Analysis of Valencia Airport; 2019, Patrik Färm and Mimmi Nyrén, Methods for efficient relocation of office space from a logistical perspective: a case study conducted at the town hall in Mjölby; 2019, Christoffer Massinger and Hampus Willers, En analys av den mentala arbetsbelastningen för en RATCO vi hanterbara flöden; 2017, Mattias Bengtsson and Emma Johansson, Förutsättningar för flygfrakt pa Norrköping flygplats; 2016, Niklas Glas and Johannes Hedström, Implementering av et stripplöst system pa Östgöta kontrollcentral; 2016, Isabella Madsen and Adam Olsson, Geografisk och funktionell luftrumdesign i Stockholm TMA; 2016, Martin Morän, Alexander Hansson, Implementering av simulatorbaserad kompetenssäkring för svenska ATS-enheter; 2016, Andreas Lenner and Sebastian Zawadzki, Placering av arbetspositioner för optimerat och effektivt samarbete pa Östgöta kontrollcentral; 2015, Jens Nilsson and Johan Nilsson, Reactor Disposal Evaluation at Sol Voltaics; 2015, Lars-Johan Ehliar and Tobias Wagner, Quantitative Key Performance Indicators for an Air Navigation Service Provider's Safety Management System;
2012, Christian Rieck, The Traveling Tourist Problem in Grid Graphs; 2012, Jan-Christoph Kalo, Variants of the Fixed-Throw Snowblower Problem; 2009, Silvia Giese, Watchman-Probleme mit beschränkter Sichtweite; 2008, Florian Frassl, Rendezvoussuche in Bäumen.

Teaching Activities

2026 **Case Studies in English for Logisticians**, *(bachelor level course)*,
Lecturer, 2h/week.

2025/26 **Scientific Writing in English**, *(PhD course)*,
Lecturer.

2025 **Air Traffic and Air Transportation**, *(bachelor level introductory course)*,
Lecturer.

2025 **Case Studies in English for Logisticians**, *(bachelor level course)*,
Lecturer, 2h/week.

2024 **Scientific Writing in English**, *(PhD course)*,
Lecturer.

2024 **Case Studies in English for Logisticians**, *(bachelor level course)*,
Lecturer, 2h/week.

2023 **Planning of Air Traffic**, *(master level course)*,
Lecturer.

2023 **Air Traffic and Air Transportation**, *(bachelor level introductory course)*,
Lecturer.

2023 **Case Studies in English for Logisticians**, *(bachelor level course)*,
Lecturer, 2h/week.

2022/2023 **Design and Analysis of Algorithms Part 2 - Approximation and Online Algorithms**, *(PhD course)*,
Lecturer.

2022 **Scientific Writing in English**, *(PhD course)*,
Lecturer.

2022 **Air Traffic and Air Transportation**, *(bachelor level introductory course)*,
Lecturer.

2022 **Case Studies in English for Logisticians**, *(bachelor level course)*,
Lecturer, 2h/week.

2021 **Design and Analysis of Algorithms Part 1 - Mathematical tools and Network problems**, *(PhD course)*,
Lecturer.

2021 **Planning of Air Traffic**, *(master level course)*,
Lecturer.

2021 **Air Traffic and Air Transportation**, *(bachelor level introductory course)*,
Lecturer.

2021 **Scientific Writing in English**, *(PhD course)*,
Lecturer.

2021 **Case Studies in English for Logisticians**, *(bachelor level course)*,
Lecturer, 2h/week.

2020 **Planning of Air Traffic**, *(master level course)*,
Lecturer.

2020 **Air Traffic and Air Transportation**, *(bachelor level introductory course)*,
Lecturer.

2020 **Case Studies in English for Logisticians**, *(bachelor level course)*,
Lecturer, 2h/week.

2020 **Scientific Writing in English**, *(PhD course)*,
Lecturer.

2019 **Design and Analysis of Algorithms Part 1 - Mathematical tools and Network problems**, *(PhD course)*,
Lecturer.

2019 **Planning of Air Traffic**, *(master level course)*,
Lecturer, ∼4h/week.

2019 **Air Traffic and Air Transportation**, *(bachelor level introductory course)*,
Lecturer, ∼6h/week.

2019 **Case Studies in English for Logisticians**, *(bachelor level course)*,
Lecturer, 2h/week.

2018 **Design and Analysis of Algorithms Part 2 - Approximation and Online Algorithms**, *(PhD course)*,
Lecturer.

2018 **Planning of Air Traffic**, *(master level course)*,
Lecturer, ∼4h/week.

2018 **Air Traffic and Air Transportation**, *(bachelor level introductory course)*,
Lecturer, ∼6h/week.

2018 **Scientific Writing in English in Case Studies in Air Traffic and Logistics**, *(bachelor level course)*,
Lecturer, 2h/week.

2017 **Basic Logistics Algorithms**, *(bachelor level introductory course)*,
Lecturer.

2017 **Air Traffic and Air Transportation**, *(bachelor level introductory course)*,
Lecturer, ∼6h/week.

2016 **Air Traffic and Air Transportation**, *(bachelor level introductory course)*,
Lecturer, ∼6h/week.

2016 **Scientific Writing in English in Case Studies in Air Traffic and Logistics**, *(bachelor level course)*,
Lecturer, 2h/week.

2015 **Seminar in Flygtrafik och flygtransporter (air traffic and air transport)**.

2014 **Netzwerkalgorithmen (Network Algorithms)**, *(bachelor level course)*,
Lecturer, Lecture + Tutorial, 3h/week.

2013/2014 **Computational Geometry**, *(master level introductory course)*,
Lecturer, Lecture + Tutorial, 3h/week.

2013 **Netzwerkalgorithmen (Network Algorithms)**, *(bachelor level course)*,
Assistant Lecturer, Tutorial, 1h/week.

2013 **Online Algorithms**, *(master level course)*,
Assistant Lecturer, Tutorial, 1h/week.

2013 **Seminar**.

2012/2013 **Computational Geometry**, *(master level introductory course)*,
Assistant Lecturer, Tutorial, 1h/week.

2012/2013 **Algorithmen und Datenstrukturen (Algorithms and Data Structures)**, *(bachelor level introductory course)*,
Assistant Lecturer, Tutorial, 2h/week.

2012/2013 **Seminar**.

2012 **Netzwerkalgorithmen (Network Algorithms)**, *(bachelor level course)*,
Assistant Lecturer, Tutorial, 1h/week.

2012 **Approximation Algorithms**, *(master level course)*,
Assistant Lecturer, Tutorial, 1h/week.

2012 **Seminar**.

2011/2012 **Computational Geometry**, *(master level introductory course)*,
Assistant Lecturer, Tutorial, 1h/week.

2011/2012 **Algorithmen und Datenstrukturen (Algorithms and Data Structures)**, *(bachelor level introductory course)*,
Assistant Lecturer, Tutorial, 2h/week.

2011/2012 **Seminar**.

2011 **Netzwerkalgorithmen (Network Algorithms)**, *(bachelor level course)*,
Assistant Lecturer, Tutorial, 1h/week.

2011 **Seminar**.

2011 **Wireless Sensor Networks Seminar**.

2010/2011 **Combinatorial Algorithms**, *(master level course)*,
Assistant Lecturer, Tutorial, 1h/week.

2010/2011 **Algorithmen und Datenstrukturen (Algorithms and Data Structures)**, *(bachelor level introductory course)*,
Assistant Lecturer, Tutorial, 2h/week.

2010/2011 **Seminar**.

2010 **Verteilte Algorithmen (Distributed Algorithms)**, *(master level course)*,
Assistant Lecturer, Tutorial, 1h/week.

2010 **Wireless Sensor Networks Seminar**.

2009/2010 **Mathematische Methoden der Algorithmik (Mathematical Methods fo Algorithms)**, *(bachelor level course on LPs)*,
Assistant Lecturer, Tutorial, 1h/week.

2009/2010 **Seminar**.

2009/2010 **Wireless Sensor Networks Seminar**.

2009 **Seminar**.

2008 **Online Algorithms**, *(master level course)*,
Assistant Lecturer, Tutorial, 1h/week.

2008 **Seminar**.

Talks (without Project Meetings)

19.04.2025 **Segment Watchman Routes**, *EuroCG 2025, Liblice, Czech Republic*.

15.01.2025 **An Introduction to the Task Force "Impact of Climate Change" of EASA's Scientific Committee**, *EASA Meteorology Expert Group (MET-EG) meeting, online*.

12.06.2024 **Biträdande professor at LiU—How Did I End up Here?**, *MAI summer seminar "Perspectives on a career with a PhD degree", LiU, online*.

16.04.2024 **Results on Convective Storms and Hail from the Task Force Climate Change of EASA's Scientific Committee**, *EN-ICCA Plenary Conference, online*.

04.03.2024 **Shift Scheduling for Air Traffic Controllers in Remote Tower Centers and for Train Dispatchers**, *MAI Optimization Seminar, LiU*.

04.07.2023 k**-Transmitters/**k**-Modems**, *Invited talks at the XX Spanish Meeting on Computational Geometry, online talk*.

23.03.2023 k**-Transmitter Watchman Routes**, *The 17th International Conference and Workshops on Algorithms and Computation, hybrid edition, online talk*.

11.01.2023 **Guarding Problems and** k**-Transmitter Watchman Routes**, *Colloquium of the Department of Mathematics and Computer Science, The Open University of Israel, online*.

06.12.2022 k**-Transmitter Watchman Routes (and Some Guarding Problems)**, *NYU, Courant Geometry Seminar, online*,
`https://www.youtube.com/watch?v=IXVUhirwO0c`.

24.06.2021 **Capacity Modeling for Controller Workload Evaluation and Optimization of Staff Planning at RTCs**, *Saab-NTU Joint Lab Quarterly Webinar series, Singapore/online*,
Together with Tatiana Polishchuk, `https://www.youtube.com/watch?v=whjePq_yEJk`.

06.05.2021 **Guarding Problems**, *Dagstuhl Seminar Computational Geometry, online/Schloss Dagstuhl, Germany*.

07.04.2021 **Rectangular Spiral Galaxies are Still Hard**, *EuroCG 2021, online/St.Petersburg, Russia*,
Together with Maarten Löffler.

18.02.2021 **Guarding Polyominoes under** k**-hop Visibility or Minimum** k**-Dominating Sets in Grid Graphs**, *4th Iranian Conference on Computational Geometry (ICCG 2021), Yazd University, Yazd, Iran/online*,
`https://youtu.be/djAmtYfn76k`.

11.02.2021 **CAPMOD Project Results and Future Research**, *DATS Workshop on Digital Air Traffic Services: Workload and Safety Assessment, Norrköping, Sweden/online*,
Together with Tatiana Polishchuk.

08.12.2020 **How to Achieve CDOs for All Aircraft: Automated Separation in TMAs; Enabling Flexible Entry Times and Accounting for Wake Turbulence Categories**, *10th SESAR Innovation Days, SIDs/online*,
`https://www.youtube.com/watch?v=CIBU1OuYL48`.

15.09.2020 **Validation of Controller Workload Predictors at Conventional and Remote Tower**, *ICRAT, International Conference for Research in Air Transportation/online*,
`https://www.youtube.com/watch?v=3g_votHQOf0`.

06.02.2020 **Workload Evaluation at Traditional and Remote Towers**, *DATS Workshop on Digital Air Traffic Services: Workload and Safety Assessment, Norrköping, Sweden*,
Together with Tatiana Polishchuk.

23.10.2019 **Presentation of Research and Education in the AEAR Group**, *SARC meeting, Linköping, Sweden*.

23.10.2019 **Automation for Separation with CDOs: Dynamic Aircraft Arrival Routes**, *Swedish National Transport Conference, Linköping, Sweden*.

17.06.2019 **Applying Geometric Thick Paths to Compute the Maximum Number of Additional Train Paths in a Railway Timetable**, *Rail Norrköping, Norrköping, Sweden*.

11.02.2019 **Starting Point for Research, CAPMOD project**, *DATS Workshop on Digital Air Traffic Services: Workload and Safety Assessment, Norrköping, Sweden*,
Together with Tatiana Polishchuk.

04.12.2018 **Identification of Complexity Factors for Remote Towers**, *SID 2018, Salzburg, Austria*.

25.10.2018 **Being a Postdoc**, *SOAF PhD workshop, Norrköping, Sweden*.

21.03.2018 **Altitude Terrain Guarding and Guarding Uni-Monotone Polygons,**, *EuroCG 2018, Berlin, Germany*.

09.03.2018 **Altitude Terrain Guarding and Guarding Uni-Monotone Polygons**, *KTS Internat, Sweden*.

30.11..2017 **Stakeholder Cooperation for Improved Predictability and Lower Cost Remote Services,**, *SID 2017, Belgrade, Serbia*.

14.11.2017 **A Framework for Integrated Terminal Airspace Design**, *RAeS Modelling and Simulation in ATM Conference, London, UK*.

29.06.2017 **A Step Towards Remote Tower Center Deployment: Optimizing Staff Scheduling**, *ATM seminar 2017, Seattle, WA, USA*.

28.06.2017 **A Novel MIP-based Airspace Sectorization for TMAs**, *ATM seminar 2017, Seattle, WA, USA*.

18.04.2017 **Convex Sectorization—a Novel Integer Programming Approach**, *ICNS 2017, Herndon, VA, USA*.

06.04.2017 **A Novel MIP-based Airspace Sectorization for TMAs**, *EuroCG 2017, Malmö, Sweden*.

05.04.2017 **Computational complexity and bounds for Norinori and LITS**, *EuroCG 2017, Malmö, Sweden*.

25.08.2016 **Automatic Design of Aircraft Arrival Routes with Limited Turning Angle**, *ATMOS, Aarhus, Denmark*.

17.02.2016 **Guarding Problems and Optimal Solutions for General Art Gallery Problems**, *KTS-seminar, ITN, LiU, Sweden*.

27.03.2015 **Guarding Variants: Continuous 1.5D Terrain Guarding and (Edge) 2-Transmitter Cover**, *CUNY Graduate Center, NY, USA*.

16.03.2015 **Combinatorics of Edge 2-transmitter Art Gallery Problems**, *EuroCG 2015, Ljubljana, Slovenia*.

03.02.2015 **Guarding Variants: Continuous 1.5D Terrain Guarding and (Edge) 2-Transmitter Cover**, *Courant Institute Geometry Seminar, NYU, NY, USA*.

19.11.2014 **Exact Solutions and Bounds for General Art Gallery Problems and an FPTAS for a Variant.**, *Theory Seminar, HUJI, Jerusalem, Israel*.

13.08.2014 **A PTAS for the 1.5D Terrain Guarding Problem**, *CCCG 2014, Halifax, Canada*.

11.08.2014 **On The Chromatic Art Gallery Problem**, *CCCG 2014, Halifax, Canada*.

19.11.2013 **Exact Solutions and Bounds for General Art Gallery Problems and an FPTAS for a Variant.**, *Courant Institute Geometry Seminar, NYU, NY, USA*.

15.11.2013 **Exact Solutions and Bounds for General Art Gallery Problems and an FPTAS for a Variant.**, *Reading Group, Computer Science, SUNY Stony Brook, NY, USA*.

25.10.2013 **Simple Rectilinear Polygons are Perfect under Rectangular Vision**, *23rd Fall Workshop on Computational Geometry, City College of New York, NY, USA*.

14.02.2013 **A Novel Efficient Approach for Solving the Art Gallery Problem**, *Seventh International Workshop on Algorithms and Computation, Kharagpur, India*.

14.02.2013 **Online Exploration and Triangulation in Orthogognal Polygonal Regions**, *Seventh International Workshop on Algorithms and Computation, Kharagpur, India*.

17.06.2012 **The Discrete and Continous Snowblower Problem**, *1st Computational Geometry; Young Researchers Forum, Chapel Hill, NC, USA*.

22.08.2011 **Exploring and Triangulating a Region by a Swarm of Robots**, *Computational Geometry Group, AMS, SUNY Stony Brook, NY, USA*.

18.08.2011 **Exploring and Triangulating a Region by a Swarm of Robots**, *14th International Workshop on Approximation Algorithms for Combinatorial Optimization Problems, Princeton, NJ, USA*.

10.06.2011 **Algorithms for Mobile Agents with Limited Capabilities**, *PhD thesis defense, TU Braunschweig, Braunschweig, Germany*.

30.03.2011 **Geometric Motion Planning: Finding Intersections**, *27th European Workshop in Computational Geometry, Morschach, Switzerland*.

22.03.2010 **Robot Swarms for Exploration and Triangulation of Unknown Environments**, *26th European Workshop in Computational Geometry, Dortmund, Germany*.

16.12.2009 **Minimum Covering with Travel Cost**, *20th International Symposium on Algorithms and Computation, Honolulu, HI, USA*.

.09.2009 **Distributed Vision with Smart Pixels**, *Schloss Dagstuhl, Germany*.

16.06.2009 **Distributed Vision with Smart Pixels**, *25th Symposium on Computational Geometry, Aarhus, Denmark*.

21.05.2009 **Optimization Methods for Guarding and Exploration with Discrete Vision**, *Colloquium of the Focus Program "Algorithm Engineering" of the DFG, Dortmund, Germany*.

23.03.2009 **Art Gallery and Watchman Problems**, *Meeting of PhD students of the Focus Program "Algorithm Engineering" of the DFG, Saarbrücken, Germany*.

17.03.2009 **Low-Cost Tours for Nearsighted Watchmen with Discrete Vision**, *25th European Workshop in Computational Geometry, Brussels, Belgium*.

06.10.2008 **RoboRithmics: Algorithmic and Technical Methods for Controlling an Autonomous Exploration Robot**, *Colloquium of the Focus Program "Algorithm Engineering" of the DFG, Saarbrücken, Germany*.

01.12.2007 **RoboRithmics: Algorithmic and Technical Methods for Controlling an Autonomous Exploration Robot**, *Colloquium of the Focus Program "Algorithm Engineering" of the DFG, Karlsruhe, Germany*.

20.03.2007 **Polygon Exploration with Discrete Vision**, *25th European Workshop in Computational Geometry, Graz, Austria*.

16.11.2006 **Polygon Exploration with Discrete Vision**, *Schloss Dagstuhl, Germany*.

15.10.2006 **Polygon Exploration with Discrete Vision**, *2nd International Symposium on Leveraging Applications of Formal Methods, Verification and Validation, Paphos, Cyprus*.

06.10.2006 **Autonomos: a Distributed and Self-Regulating Approach for Organizing a Large System of Mobile Objects**, *Colloquium of the Focus Program "Organic Computing" of the DFG, Lübeck, Germany*.

Publications (in Reverse Chronological Order)

(Note that for publications in Computational Geometry and Algorithms (my main research areas) papers are published with authors in alphabetical order. For publications in Air Traffic Management we often, but not always, abide by this rule.)

2025 R. Hajizadeh, H. Hardell, T. Polishchuk, E. Rönnberg, C. Schmidt. Integrating Atmospheric Conditions into the Dynamic-Arrival-Routes Framework, In *SESAR Innovation Days (SIDs) 2025*,

A. Lemetti, L. Meyer, M. Peukert, T. Polishchuk, C.Schmidt, H. Alpfjord Wylde:. Predicting Air Traffic Controller Workload from Eye-Tracking Data with Machine Learning, In *Journal of Open Aviation Science*, 3(1), `https://doi.org/10.59490/joas.2025.8034`

R. Ghasemi, A. Bagheri, A. Brötzner, F. Farivar, F. Keshavarz-Kohjerdi, B.J. Nilsson, C. Schmidt. m-Watchmen's Routes in Minbar and Generalized Minbar Polygons, In *Computational Geometry: Theory and Applications*, Volume 131, March 2026, 102217

R. Ghasemi, A. Bagheri, A. Brötzner, F. Farivar, F. Keshavarz-Kohjerdi, B.J. Nilsson, C. Schmidt. m-Watchmen's Routes in Minbar and Generalized Minbar Polygons, In *Computational Geometry: Theory and Applications*, Volume 131, March 2026, 102217

A. Brötzner, B.J. Nilsson, C. Schmidt. Multiple Watchman Routes in Staircase Polygons, In *the 37th Canadian Conference on Computational Geometry (CCCG 2025)*

P. Hecker, N. Asher, F. Brazier, T. Hovald, M. Jacyna, M. Kaltschmitt, M. Lovera, C. Schmidt, N. Viola, S. Michaelides, T. Mickler, A. Leroy, G. Aigoin, S. Arrowsmith, E.Isambert, K. Reinartz-Krott, G. Soudain, F. Tymvios, S. Salles, V. Landry-Sivel, A. Gonzales Gomes, C. Hancock, R. Pelchen-Medwed, M.Labathut, A. Kilner, I. Berlenga, A. Werner, G. Gardiol. EASA Scientific Committee Annual Report 2024 and Appendices EASA Scientific Committee Annual Report 2024

O.Filtser, E. Krohn, B.J. Nilsson, C. Rieck, C. Schmidt. Guarding Polyominoes Under k-Hop Visibility, In *Algorithmica*, Volume 87, pages 572–593, 2025

A. Brötzner, O. Filtser, B.J. Nilsson, C. Rieck, C. Schmidt: Segment Watchman Routes, To appear in *EuroCG 2025*

A. Brötzner, B.J. Nilsson, C. Schmidt: Two Watchmen's Routes in Staircase Polygons, To appear in *EuroCG 2025*

L. Yu, C. H. Häll, A. Peterson, C.Schmidt: Short-Term Crew Rescheduling: Extending the Scheduling Options in a Tabu-Search-Based Approach, To appear in *RailDresden 2025*

D. Dekker, C. H. Häll, A. Peterson, C.Schmidt: A New Approach for Rerouting Multiple Trains During Construction Works and Major Disturbances, To appear in *RailDresden 2025*

2024 T. Lidén, C. Schmidt, R.Zahir: Two-Stage Weekly Shift Scheduling for Train Dispatchers, In the 24th Symposium on Algorithmic Approaches for Transportation Modelling, Optimization, and Systems (ATMOS 2024), Volume 12, Issue 1, 2024

A. Lemetti, L. Meyer, M. Peukert, T. Polishchuk, C.Schmidt, H. Alpfjord Wylde. Predicting Air Traffic Controller Workload using Machine Learning with a Reduced Set of Eye-Tracking Features, In *The 35th European Association for Aviation Psychology (EAAP) Conference*

T. Lidén, C. Schmidt, R.Zahir: Improving Attractiveness of Working Shifts for Train Dispatchers, In Transportmetrica B: Transport Dynamics, Volume 12, Issue 1, 2024

L. Yu, C. H. Häll, A. Peterson, C.Schmidt: Last-minute Crew Rescheduling: Model and Heuristic Approach, In *Euro Working Group on Transportation (EWGT) 2024*

D. Dekker, C. H. Häll, A. Peterson, C.Schmidt: A New Method for Inserting Train Paths into a Timetable, Presented at *Euro Working Group on Transportation (EWGT) 2024*

A. Lemetti, L. Meyer, M. Peukert, T. Polishchuk, C.Schmidt, H. Alpfjord Wylde. Eye in the Sky: Predicting Air Traffic Controller Workload through Eye-tracking based Machine Learning, In *43rd Digital Avionics Systems Conference (DASC) 2024*

S. Fekete, J. S.B. Mitchell, C. Scheffer, C. Rieck, C. Schmidt. Dispersive Vertex Guarding for Simple and Non-Simple Polygons, In *36th Canadian Conference on Computational Geometry (CCCG 2024)*

G. Dilman, D. Eppstein, V. Polishchuk, C. Schmidt. Well-Separated Multiagent Path Traversal, In *36th Canadian Conference on Computational Geometry (CCCG 2024)*

R. Hajizadeh, T. Polishchuk, E. Rönnberg, C. Schmidt. A Dantzig-Wolfe Reformulation for Automated Aircraft Sequencing with Continuous Descent Operations in TMAs, Peer-reviewed extended abstract in *4th International Conference on the Practice and Theory of Automated Timetabling (PATAT 2024)*

P. Hecker, N. Asher, F. Brazier, T. Hovald, M. Jacyna, M. Kaltschmitt, M. Lovera, C. Schmidt, N. Viola, A. Leroy, G. Aigoin, S. Arrowsmith, E.Isambert, K. Reinartz-Krott, G. Soudain, F. Tymvios, S. Salles. EASA Scientific Committee Annual Report 2023 and Appendices EASA Scientific Committee Annual Report 2023

O. Filtser, E. Krohn, B.J. Nilsson, C. Rieck, C. Schmidt. Guarding Polyominoes under k-Hop Visibility, In *LATIN (Latin American Theoretical Informatics) 2024*

A. Brötzner, B.J. Nilsson, C. Schmidt. The k-Transmitter Watchman Route Problem is NP-Complete Even in Histograms and Star-Shaped Polygons, In *40th European Workshop on Computational Geometry (EuroCG)*

C. Alegría , A. Brötzner, B.J. Nilsson, C. Schmidt, C. Seara. The Complexity of the Lower Envelope of Collections of Various Geometric Shapes, In *40th European Workshop on Computational Geometry (EuroCG)*

2023 A. Lemetti, L. Meyer, M. Peukert, T. Polishchuk, C.Schmidt. Discrete-Fourier-Transform-Based Evaluation of Physiological Measures as Workload and Fatigue Indicators, In *42nd Digital Avionics Systems Conference (DASC) 2023*

W. Erlandson, C. H. Häll, A. Peterson, C.Schmidt: Meta-Heuristic for Inserting a Robust Train Path in a Non-Cyclic Timetable In *Transportation Planning and Technology*

A. Bagheri, A. Brötzner, F. Farivar, R. Ghasemi, F. Keshavarz-Kohjerdi, E. Krohn, B.J. Nilsson, C. Schmidt. Minsum m watchmen's routes in Stiegl polygons. In *XX Spanish Meeting on Computational Geometry*

B. J. Nilsson, C.Schmidt. k-Transmitter Watchman Routes. In *17th International Conference and Workshops on Algorithms and Computation (WALCOM 2023)*

P. Hecker, N. Asher, H. Bijl, F. Brazier, T. Hovald, M. Jacyna, M. Kaltschmitt, M. Lovera, V.-H. Peuch, C. Schmidt, N. Viola: EASA Scientific Committee Annual Report 2022 and Appendices EASA Scientific Committee Annual Report 2022

T. Lidén, C. Schmidt, R.Zahir: Shift Scheduling for Train Dispatchers, To appear in the 10th International Conference on Railway Operations Modeling and Analysis (ICROMA)–RailBelgrade 2023

L. Yu, C. H. Häll, A. Peterson, C. Schmidt: A MILP Model for Rescheduling Freight Trains under an Unexpected Marshalling-Yard Closure, To appear in the 10th International Conference on Railway Operations Modeling and Analysis (ICROMA)–RailBelgrade 2023

2022 G. Flötteröd, F. Kristofersson, R. Ringdahl, C.Schmidt. Effects of an Optimized Carsharing-System Design on Demand: a Joint Optimization–Simulation Approach, In *26th International Conference of Hong Kong Society for Transportation Studies*

E. Demaine, M. Löffler, C.Schmidt. Rectangular Spiral Galaxies are Still Hard. In *Computational Geometry: Theory and Applications*

E. Krohn, B.J. Nilsson, C. Schmidt. Opposing Half Guards, In *Canadian Conference on Computational Geometry*

E. Hérnandez-Romero, B. Josefsson, A. Lemetti, T. Polishchuk, V. Polishchuk C.Schmidt. Integrating Weather Impact in Air Traffic Controller Shift Scheduling in Remote and Conventional Towers, In *EURO Journal on Transportation and Logistics*.

L. Meyer, M. Peukert, T. Polishchuk, C.Schmidt. Investigating Ocular and Head-Yaw Measures as Indicators for Workload and Fatigue under Varying Taskload Conditions. In *10th International Conference for Research in Air Transportation*.

B. J. Nilsson, C.Schmidt. k-Transmitter Watchman Routes. In *38th European Workshop on Computational Geometry (EuroCG 2022)*

2021 R. Sáez, T. Polishchuk, C.Schmidt, H. Hardell, L. Smetanová, V. Polishchuk, X. Prats. Automated Sequencing and Merging with Dynamic Aircraft Arrival Routes and Speed Management for Continuous Descent Operations, To appear in *Transportation Research Part C*

W. Erlandson, C. H. Häll, A. Peterson, C.Schmidt. Meta-Heuristic for Inserting a Robust Train Path in a Non-Cyclic Timetable, In *Rail Beijing, 9th International Conference on Railway Operations Modelling and Analysis (ICROMA)*.

H. Akitaya, B. Ballinger, E. Demaine, T. Hull, C. Schmidt. Folding Points to a Point and Lines to a Line, In *33rd Canadian Conference on Computational Geometry, CCCG 2021*.

O. Aichholzer, H. Akitaya, K. Cheung, E. Demaine, M. Demaine, S. Fekete, L. Kleist, I. Kostitsyna, M. Löffler, Z. Masarova, K. Mundiolva, C. Schmidt. Folding Polyominoes with Holes into a Cube, In *CGTA, Computational Geometry: Theory and Applications*, Vol. 93, February 2021.

E. Demaine, M. Löffler, C.Schmidt. Rectangular Spiral Galaxies are Still Hard. In *37th European Workshop on Computational Geometry (EuroCG 2021)*

C.Schmidt. Guarding Polyominoes under k-Hop Visibility or Minimum k-Dominating Sets in Grid Graphs. In *4th Iranian Conference on Computational Geometry (ICCG 2021)*

2020 T. Polishchuk, V. Polishchuk, C.Schmidt, R. Sáez, X. Prats, H. Hardell, L. Smetanová. How to Achieve CDOs for All Aircraft: Automated Separation in TMAs; Enabling Flexible Entry Times and Accounting for Wake Turbulence Categories, In *10th SESAR Innovation Days*

B. Josefsson, A. Lemetti, T. Polishchuk, V. Polishchuk, C.Schmidt. Integrating Weather Impact in RTC Staff Scheduling, In *10th SESAR Innovation Days*

F. Ljunggren, K. Persson, A. Peterson, C.Schmidt. Railway Timetabling: A Maximum Bottleneck Path Algorithm for Finding an Additional Train Path, In *Public Transport*

R. Sáez, X. Prats, T. Polishchuk, V. Polishchuk, C.Schmidt. Automation for Separation with CDOs: Dynamic Aircraft Arrival Routes, In *Journal of Air Transportation*, Volume 28, Number 4, October 2020

B. Josefsson, L. Meyer, M. Peukert, T. Polishchuk, C.Schmidt. Validation of Controller Workload Predictors at Conventional and Remote Towers, In *International Conference for Research in Air Transportation* BEST PAPER AWARD

V. Polishchuk, C. Schmidt. Editorial for the Special Issue of Computational Geometry, Theory and Applications for the European Workshop on Computational Geometry (EuroCG) 2017, To appear in *CGTA, Computational Geometry: Theory and Applications (special issue of CGTA on EuroCG'17)*

2019 T. Andersson Granberg, T. Polishchuk,V. Polishchuk, C. Schmidt. A Framework for Integrated Terminal Airspace Design In *The Aeronautical Journal*, Volume 123, Issue 1263, May 2019 , pp. 567-585

O Daescu, S. Friedrichs, H. Malik, V. Polishchuk, C. Schmidt. Altitude Terrain Guarding and Guarding Uni-Monotone Polygons In *CGTA, Computational Geometry: Theory and Applications (special issue of CGTA on EuroCG'18)*, Volume 84, November 2019, pp. 22-35

A. Peterson, V. Polishchuk, C. Schmidt. Applying Geometric Thick Paths to Compute the Maximum Number of Additional Train Paths in a Railway Timetable, In *RailNorrköping 2019. 8th International Conference on Railway Operations Modelling and Analysis (ICROMA)*, p. 964-977, 2019

O. Aichholzer, H. Akitaya, K. Cheung, E. Demaine, M. Demaine, S. Fekete, L. Kleist, I. Kostitsyna, M. Löffler, Z. Masarova, K. Mundiolva, C. Schmidt. Folding Polyominoes with Holes into a Cube, In *CCCG 2019*

R. Sáez, X. Prats, T. Polishchuk, V. Polishchuk, C.Schmidt. Automation for Separation with CDOs: Dynamic Aircraft Arrival Routes In *ATM Seminar, 2019*

T. Andersson Granberg, T. Polishchuk, V. Polishchuk, C.Schmidt. Integer Programming-Based Airspace Sectorization for Terminal Maneuvering Areas with Convex Sectors In *Journal of Air Transportation*, Volume 27, Number 4, October 2019

B. Josefsson, T. Polishchuk, V. Polishchuk, C.Schmidt. A Step Towards Remote Tower Center Deployment: Optimizing Staff Scheduling, In *Journal of Air Transportation*, Volume 27, Number 3, July 2019

2018 B. Josefsson, J. Jakobi, A. Papenfuss, T. Polishchuk, C. Schmidt, L. Sedov. Identification of Complexity Factors for Remote Towers In *SESAR Innovation Days 2018*

O Daescu, H. Malik, C. Schmidt. A Greedy Linear-time Algorithm for the Altitude Terrain Guarding Problem In *28th Annual Fall Workshop on Computational Geometry*

J. Dahlberg, T.A. Granberg, T. Polishchuk, C. Schmidt, L. Sedov. Capacity-Driven Automatic Design of Dynamic Aircraft Arrival Routes In *37th AIAA/IEEE Digital Avionics Systems Conference (DASC)*

F. Ljunggren, K. Persson, A. Peterson, C. Schmidt. Maximum Robust Train Path for an Additional Train Inserted in a Railway Timetable Close to Operation In *Conference on Advanced Systems in Public Transport and TransitData 2018*
BEST PAPER AWARD

S. Friedrichs , V. Polishchuk, C. Schmidt. Altitude Terrain Guarding and Guarding Uni-Monotone Polygons In *Proceedings of the 34th European Workshop on Computational Geometry 2018*

S. Cannon , Th. Fai, J. Iwerks, U. Leopold, C. Schmidt. Combinatorics and complexity of guarding polygons with edge and point 2-transmitters. In *Computational Geometry: Theory and Applications*, Volume 68, March 2018, pp. 89-100

O. Aichholzer, M. Biro, E. Demaine, M. Demaine, D. Eppstein, S. Fekete, A. Hesterberg, I. Kostitsyna, C. Schmidt. Folding Polyominoes into (Poly)Cubes. In *International Journal of Computational Geometry & Applications (IJCGA)*, Vol. 28, No. 03, pp. 197-226 (2018)

2017 J. Dahlberg, T. Polishchuk,V. Polishchuk, C. Schmidt. Stakeholder Cooperation for Improved Predictability and Lower Cost Remote Services. In *SESAR Innovation Days (SID) 2017*, Belgrade, Serbia

B. Josefsson, T. Polishchuk,V. Polishchuk, C. Schmidt. Scheduling Air Traffic Controllers at the Remote Tower Center. In *36th IEEE/AIAA Digital Avionics Systems Conference (DASC), 2017*, St. Petersburg, FL, USA

T. Andersson Granberg, T. Polishchuk,V. Polishchuk, C. Schmidt. A Novel MIP-based Airspace Sectorization for TMA. In *Proceedings of ATM Seminar 2017*, Seattle, WA, USA

B. Josefsson, T. Polishchuk,V. Polishchuk, C. Schmidt. A Step Towards Remote Tower Center Deployment: Optimizing Staff Scheduling. In *Proceedings of ATM Seminar 2017*, Seattle, WA, USA

S. Fekete, A. Haas, M. Hemmer, M. Hoffmann, I. Kostitsyna, D. Krupke, F. Maurer, J. S.B. Mitchell, A. Schmidt, C. Schmidt, J. Troegel. Computing Nonsimple Polygons of Minimum Perimeter. In *Journal of Computationl Geometry*, Volume 8, Number 1 (2017), pp. 340–365

T. Andersson Granberg, T. Polishchuk, V. Polishchuk, C. Schmidt. Convex Sectorization–a Novel Integer Programming Approach. In *Proceedings of the 2017 Integrated Communications Navigation and Surveillance (ICNS) Conference*
3rd BEST PAPER AWARD

M. Biro, C. Schmidt. Computational complexity and bounds for Norinori and LITS. In *Proceedings of the European Workshop on Computational Geometry 2017*, Malmö, Sweden, pp. 29–32

T. Andersson Granberg, T. Polishchuk, C. Schmidt. A Novel MIP-based Airspace Sectorization for TMA. In *Proceedings of the European Workshop on Computational Geometry 2017*, Malmö, Sweden, pp.173–176

2016 T. Andersson Granberg, T. Polishchuk, V. Polishchuk, C. Schmidt. Automatic Design of Aircraft Arrival Routes with Limited Turning Angle. In *Proceedings of the 16th workshop on Algorithmic Approaches for Transportation Modeling, Optimization, and Systems*, Aarhus, Denmark, 2016

S. Friedrichs, M. Hemmer, J. King, C. Schmidt . The continuous 1.5D terrain guarding problem: discretization, optimal solution, and PTAS. In *Journal of Computational Geometry, Vol 7, No 1 (2016)*

M. Ernestus, S Friedrichs, M. Hemmer , J. Kokemüller, A. Kröller, M. Moeini, C. Schmidt. Algorithms for Art Gallery Illumination. In *Journal of Global Optimization, 68(1):23–45*

S. Fekete, A. Haas, M. Hemmer, M. Hoffmann, I. Kostitsyna, D. Krupke, F. Maurer, J. S.B. Mitchell, A. Schmidt, C. Schmidt, J. Troegel. Computing Nonsimple Polygons of Minimum Perimeter. In *Proceedings of 15th International Symposium on Experimental Algorithms*, St. Petersburg, Russia, 2016, pp. 134–149

K. Burke , E. Demaine, H. Gregg, R. Hearn, A. Hesterberg, M. Hoffmann, H. Ito, I. Kostitsyna, J. Leonard, M. Löffler, Y. Uno, A. Santiago, C. Schmidt, R. Uehara, A. Williams. Single-Player and Two-Player Buttons & Scissors Games (Extended Abstract). To appear in *Post-Conference Proceedings of JCDCG2 2015*

T. Andersson Granberg, P. Axelsson, J. Petersson, T. Polishchuk, V. Polishchuk, C. Schmidt. Configuration and Planning of the Remote Tower Modules in a Remote Tower Center. In *Proceedings of the 7th International Conference on Research in Air Transportation (ICRAT)*, Philadelphia, Pennsylvania, USA, 2016

M. Hemmer, C. Schmidt. Convex Hulls. In *Encyclopedia of Algorithms*, Springer, 2016, pp. 446–449

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Patents

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