

Philipp Alexander Grzywaczyk

PERSONAL DATA

Date of Birth: 13 September 1999
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EDUCATION

since October 2023	PhD-student of MATHEMATICS at Technische Universität Dresden under the supervision of Prof. Dr. Manuel Bodirsky Topics: Algebraic and Model-theoretic Methods for Complexity of Constraint Satisfaction Problems
October 2021 to July 2023	Master's program COMPUTER MATHEMATICS at Johannes Kepler Universität Linz , final grade: with distinction (average grade 1.1) Thesis Topic: Primitive Elements of Finite Fields Outside of Affine Hyperplanes
October 2017 to March 2021	Bachelor's degree in MATHEMATICS with minor in PHILOSOPHY at the University of Bonn , final grade: gut (2.5) Thesis Topic: Cubical Homology
June 2017	ABITUR ("A-levels") at the Dietrich-Bonhoeffer-Gymnasium in Bergisch Gladbach, final grade: 1.1

SCHOLARSHIPS

January 2023	LEISTUNGSSTIPENDIUM (merit-based scholarship), awarded by the Johannes-Kepler-Universität Linz , in recognition of outstanding academic achievements.
August 2021, April 2018	Scholarship by the Friedrich-Naumann-Stiftung für die Freiheit (Friedrich Naumann Foundation for Freedom), awarded for the duration of undergraduate studies and renewed for graduate studies. Mission statement of the Foundation: "The Friedrich Naumann Foundation for Freedom promotes enthusiastic, curious and cosmopolitan people. It supports personalities with academic talent in all disciplines - in their studies and during their doctorate. Those supported actively stand up for liberal values and an open society. They take responsibility for themselves and others."
March 2018	Scholarship by the Studienstiftung des deutschen Volkes (German Academic Scholarship Foundation), awarded for the duration of undergraduate studies. According to its statutes, it supports "the university education of young people who, on account of their exceptional academic or artistic talents and their personalities, can be expected to make an outstanding contribution to society as a whole". The Studienstiftung is non-political, non-denominational and ideologically independent. Less than 0.5% of all German students are sponsored by the Studienstiftung.

TEACHING AND PRACTICAL EXPERIENCE

- since October 2023 | Research Fellow at the **Institut für Algebra** of Technische Universität Dresden
Research on complexity of constraint satisfaction problems in the research group of Prof. Dr. Manuel Bodirsky within the project POCOCOP (ERC Synergy Grant)
- October 2022 to June 2023 | Tutor for the lectures **Programming 1** and **Algorithmic Methods of Numerics** at the **Institute of Numerical Mathematics** of Johannes-Kepler-Universität Linz
Correcting student's assignments as well as giving weekly tutorials about the lecture. Topics of the lectures: Fundamentals of programming in C++; number representation in computers, floating decimal and error analysis, matrix decompositions, direct and iterative numerical algorithms for solving systems of linear equations
- April 2021 to June 2021 | Internship at **Accenture GmbH** in the department **Program, Project & Service Management**
Creating a supervisory relevant risk analysis for the client's information security; support in setting up an agile test management tool; analysis of the client's process for software testing and modelling in ALM Octane; monitoring of vulnerability management and creation of reporting documents in the client's operational security.
- October 2020 to February 2021 | Tutor for the lecture **Introduction to Discrete Mathematics** at the **Research Institute for Discrete Mathematics** of the University of Bonn.
Administration and realisation of tutorials on a mathematics lecture of the third semester, supervising students and correcting assignments, mostly via Zoom. Topics of the lecture: Theoretical results and algorithms for network flows, minimum cost flows and maximum matchings as well as Turing machines, P and NP , NP -completeness and Cook's Theorem
- October 2019 to September 2020 | Tutor for the lectures **Algorithmic Mathematics 1 and 2** at the **Institute of Applied Mathematics** of the University of Bonn.
Administration and realisation of tutorials on mathematics lectures of the first two semesters, supervising students and correcting assignments. Topics of the lectures: Number representation in computers, error analysis, sorting algorithms, graphs and basic algorithms, matrix decompositions and algorithms for solving systems of linear equations, polynomial interpolation and numerical integration, basics of stochastics and Markov chains
- July 2017 | Internship at **AXA-Konzern AG**, department **Value-Risk-Management**, Life/Health Financial Management.
Support in the risk assessment of the insurance portfolio in the life/health sector with regard to specifications of the European financial supervisory system (Solvency II).
- September 2015 to April 2017 | Volunteer **Network Administrator** at the Dietrich-Bonhoeffer-Gymnasium in Bergisch Gladbach.
Maintenance and servicing of the school network and server infrastructure, installing updates, minor repairs to clients.

LANGUAGE AND COMPUTER SKILLS

LANGUAGES: | **German** - Native
Polish - Native
English - Level C1 (Cambridge Certificate of Advanced English)
Italian - Level B1
Latin - *examen Latinum*

COMPUTER SKILLS: | Confident handling of **Microsoft Office** and **L^AT_EX**
Programming in **C**, **C++**, **Java** and **Turbo Pascal**
Well used to working with **Mathematica** and **MatLab**
Knowledge of the agile development tools **Jira** and **ALM Octane**
Experience in **Network Administration** and with **Linux**-based systems

VOLUNTEER WORK, SEMINARS AND ACADEMIES (SELECTION)

- since October 2023: | Member of the Selection Committee of the **Studienstiftung des deutschen Volkes** (German Academic Scholarship Foundation)
- since March 2023: | Seminar-Assistant for the **International Academy for Leadership of the Friedrich-Naumann-Foundation for Freedom**
Assisting the facilitators during the seminar, mediation between them and the academy, and support of the international guests.
- since October 2022: | Active member of the initiative "*musik verbindet*" (music connects) within the **Jeunesses Musicales Deutschland**
Planning and organising regular seminars and workshops as well as a summer camp on music for young people; supervising the introduction of a dedicated app for communication and exchange between and within youth orchestras and other ensembles for the JMD.
- September 2019: | Organisation of the SCHÜLERTAGUNG (student's conference) of the **Deutsche Physikalische Gesellschaft** (German Physical Society)
- since December 2018: | Organisation of the lecture series BONNER COLLOQUIUM as part of the scholarship commitment of the **Studienstiftung** (German Academic Scholarship Foundation)
- September 2018: | Organisation of the seminar PHYSICS MEETS MUSIC of the **Deutsche Physikalische Gesellschaft**