

CURRICULUM VITAE

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CONTACT

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EDUCATION AND ACADEMIA

- 07/19 – today **Postdoctoral researcher**
Research Group in Nonlinear Algebra of Prof. Bernd Sturmfels
Max Planck Institute for Mathematics in the Sciences, Leipzig, Germany
- 10/15 – 05/19 **Doctoral studies in Mathematics**
Thesis: *Topological Computation of Stokes Data of Weighted Projective Lines*
Advisors: Prof. Marco Hien and Prof. Maxim Smirnov
University of Augsburg, Germany
- 10/13 – 07/15 **Master of Science with Honors** in Mathematics within the program *TopMath*
Thesis: *From Turrittin–Levelt to the lower semi-continuity of families of \mathcal{D} -modules*
Technical University of Munich, Germany
- 10/12 – 09/13 **Additional certificate: Elite Bachelor** in the programm *TopMath* of the *Elite Network of Bavaria*
University of Augsburg/Technical University of Munich, Germany
- 10/10 – 08/13 **Bachelor of Science** in Mathematics, minor subject: Philosophy
Thesis: *Irregularity and spectral norm of differential modules*
University of Augsburg, Germany

PUBLICATIONS AND PREPRINTS

- 2021 **Nonlinear Algebra and Applications** (with P. Breiding, T. Çelik, T. Duff, A. Heaton, A. Maraj, L. Venturello, and O. Yürük). arXiv:2103.16300, 2021.
- 2021 **Combinatorial Differential Algebra of x^P** (with R. Ait El Manssour). arXiv:2102.03182, 2021.
- 2021 **Maximum Likelihood Estimation from a Tropical and a Bernstein–Sato Perspective** (with R. van der Veer). arXiv:2101.03570, 2021.
- 2020 **Algebraic Analysis of the Hypergeometric Function ${}_1F_1$ of a Matrix Argument** (with P. Görlach and C. Lehn). *Beiträge zur Algebra und Geometrie*, November 2020.
- 2020 **Algebraic Analysis of Rotation Data** (with M. F. Adamer, A. C. Lórinicz, and B. Sturmfels). *Algebraic Statistics* 11(2):189–211, 2020.
- 2019/2021 **D-Modules and Holonomic Functions** (with B. Sturmfels). arXiv:1910.01395 [math.AG], 2019. To appear in the proceedings of the *Math+ Fall School in Algebraic Geometry*.
- 2021 **Topological computation of Stokes matrices of some weighted projective lines**. *Manuscripta mathematica* 164(3):327–347, 2021.

TEACHING AND WORK EXPERIENCE

- 12/2020 – today **Equal Opportunity Representative**
Max Planck Institute for Mathematics in the Sciences, Leipzig, Germany

- 09/15 – 06/19 **Scientific assistant** of Prof. Marco Hien at the University of Augsburg, Germany
 ▷ Tutoring diverse lectures in Mathematics
 ▷ Tutoring and organizing a help desk for students of Mathematics
 ▷ Tutoring and organizing a study program for pupils
- 08/13 – 08/15 **Assistant in the project *Best MINT*** of the Bavarian State Ministry for Education, Science and the Arts at the University of Augsburg, Germany
- 08/12 – 09/12 **Intern** at *SGL Carbon* in Meitingen, Germany
 Mathematical modeling of the extrusion of ceramic materials
- 10/11 – 07/13 **Scientific assistant** at the University of Augsburg, Germany
 Tutoring lectures on Linear Algebra and Commutative Algebra

SELECTED TALKS AND SCIENTIFIC ORGANIZING

- 08/2021 **SIAM Conference on Applied Algebraic Geometry (AG21)**
 Session: Differential Equations in Algebraic Geometry and Beyond
 Invited talk: *D-Modules in (Algebraic) Statistics*
 Texas A&M University
- 07/2021 **Mathematical Congress of the Americas**
 Session: Differential operators in algebraic geometry and commutative algebra
 Invited talk: *TBA*
 University of Buenos Aires
- 06/2021 **MEGA 2021**
 Talk: *Combinatorial Differential Algebra of x^p*
 University of Tromsø – The Arctic University of Norway
- 04/2021 **Seminar on the Mathematics of Amplitudes**
 Invited Talk: *MLE from a Tropical and a Bernstein–Sato Perspective*
 IAS Princeton, MPI MiS Leipzig, and MPP Munich
- 02/2021 **Onlineseminar on Applied Algebra and Analysis**
 Invited Talk: *MLE from a Tropical and a Bernstein–Sato Perspective*
 TU Braunschweig and Osnabrück University
- 01/2021 **OSCAR rings in the new year**
 Software presentation: *Singular* in OSCAR
 MPI MiS, Leipzig
- 11/2020 **Workshop Computational Algebra 2020**
 Invited Talk: *Algebraic Analysis of the Hypergeometric Function ${}_1F_1$ of a Matrix Argument*
 TU Kaiserslautern
- 09/2020 **Seminar on Nonlinear Algebra**
 Talk: *Algebraic tools for Topological Data Analysis*
 MPI MiS, Leipzig
- 07/2020 **ICMS 2020 Session: Computational Algebraic Analysis**
 Scientific organization together with Dr. Christoph Koutschan
 TU Braunschweig
- 03/2020 **Seminar Number Theory and Algebraic Geometry**
 Invited talk: *D-modules: Linear PDEs from an algebraic perspective*
 KU Leuven

- 11/2019 **Seminar on Symbolic Computation**
Invited talk: *Computational Algebraic Analysis*
RICAM, Linz
- 11/2019 **Geometric Analysis Seminar**
Invited talk: *D-modules and applications*
Goethe University of Frankfurt
- 10/2019 **European Women in Mathematics: German Chapter Conference 2019**
Talk: *Computational Algebraic Analysis*
MPI MiS, Leipzig
- 09/2019 **Fall School: Varieties, Polyhedra, Computation**
Exercise session accompanying a lecture series on *D-modules and holonomic functions* delivered by Prof. Bernd Sturmfels
Berlin Mathematics Research Center
- 09/2019 **Seminar: Computing with D-modules II**
Scientific organization of the seminar together with Prof. Christian Sevenheck
Talk: *Probability distributions as holonomic functions*
MPI MiS, Leipzig
- 08/2019 **Seminar: Computing with D-modules**
Talk: *How to compute? Part 2: Plural*
MPI MiS, Leipzig
- 05/2019 **Otto–Sturmfels-Day**
Invited talk: *Algebraic Analysis: D-Modules and PDEs*
MPI MiS, Leipzig
- 04/2019 **Workshop: D-modules and the Riemann–Hilbert-correspondence**
Invited talk: *Riemann–Hilbert for D-modules arising from weighted projective lines*
Humboldt University of Berlin

SCHOLARSHIPS AND ACHIEVEMENTS

- 09/16 – 05/19 **German Academic Scholarship Foundation**
Doctoral scholarship
- 11/2015 **Hurwitz Society of the Technical University of Munich**
Honoring for the Master's degree passed with distinction
- 10/12 – 09/15 **Max Weber-Program of the German Academic Scholarship Foundation**
Scholarship
- 04/11 – 03/13 **Deutschlandstipendium**

FURTHER QUALIFICATIONS

- Language ▷ **German** (native language)
 ▷ **English** (fluent)
 ▷ **French** (advanced, level C1)
 ▷ **Italian** (upper intermediate, level B2)
- Teaching **Acquisition of the *Certificate for Teaching in Higher Education of the Bavarian Universities***
Diverse soft skill courses on rhetoric, voice training, moderation, team heading, mentoring students, etc. in the program *ProfiLehre*