

# CURRICULUM VITAE

ANNA-LAURA SATTELBERGER, DR. RER. NAT.

BORN DECEMBER 27, 1991

## CONTACT

---

Office address     Max Planck Institute for Mathematics in the Sciences  
Inselstraße 22, 04103 Leipzig, Germany

E-mail                anna-laura.sattelberger@mis.mpg.de

Website              www.alsattelberger.de

## 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** in the field of Algebraic Analysis  
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

09/08 – 06/10        **Abitur**, intensive courses: Mathematics and French  
Werner-von-Siemens-Gymnasium Weißenburg, Germany

## PUBLICATIONS

---

Work in progress    **Moduli Problems of Multigraded Modules** (with V. Bertini and C. Lehn)

Work in progress    **Likelihood Slopes from a Tropical and a  $D$ -Module Perspective** (with R. van der Veer)

2020                    **Algebraic Analysis of the Hypergeometric Function  ${}_1F_1$  of a Matrix Argument** (with P. Görlach and C. Lehn), arXiv:2005.06162. Submitted to *Beiträge zur Algebra und Geometrie*.

2019/2020            **Algebraic Analysis of Rotation Data** (with M. F. Adamer, A. C. Lórinčz, and B. Sturmfels), arXiv:1912.00396. To appear in *Algebraic Statistics*.

2019/2020             **$D$ -modules and holonomic functions** (with B. Sturmfels), arXiv:1910.01395. To be published in the proceedings of the *Math+ Fall School in Algebraic Geometry*.

2018/2020            **Topological computation of the Stokes matrices of the weighted projective line  $\mathbb{P}(1, 3)$** , arXiv:1810.10954. A revised and extended version **Topological computation of Stokes matrices of some weighted projective lines** is published in *Manuscripta Mathematica*, 2020. DOI: 10.1007/s00229-020-01193-3.

## TEACHING AND WORK EXPERIENCE

---

- 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  
 ▷ Mentoring pupils attending lectures at the University of Augsburg, Germany  
 ▷ Organizing a mentoring program for first term students of Mathematics
- 08/12 – 09/12     **Intern** at *SGL Carbon* in Meitingen, Germany  
 Task: Mathematical modeling of the extrusion of ceramic materials
- 10/11 – 07/13     **Scientific assistant** at the University of Augsburg, Germany  
 Task: Tutoring lectures on Linear Algebra and Commutative Algebra

## TALKS, CONFERENCE CONTRIBUTIONS, AND SCIENTIFIC ORGANIZING

---

- 09/2020            **Seminar on Nonlinear Algebra**  
 Talk: *Algebraic tools for Topological Data Analysis*  
 MPI MiS, Leipzig, Germany
- 09/2020            **DMV Annual Meeting 2020 Minisymposium: Algebraic Methods for the Sciences** *This Minisymposium was postponed.*  
 Invited talk: *TBA*  
 Chemnitz University of Technology, Germany
- 07/2020            **ICMS 2020 Session: Computational Algebraic Analysis**  
 Scientific organization together with Dr. Christoph Koutschan  
 Technical University of Braunschweig, Germany
- 03/2020            **Seminar Number Theory and Algebraic Geometry**, invited by Prof. Nero Budur  
 Talk: *D-modules: Linear PDEs from an algebraic perspective*  
 Catholic University of Leuven, Belgium
- 11/2019            **Seminar on Symbolic Computation**, invited by Dr. Christoph Koutschan  
 Talk: *Computational Algebraic Analysis*  
 RICAM, Linz, Austria
- 11/2019            **Geometric Analysis Seminar**, invited by Prof. A. Bernig  
 Talk: *D-modules and applications*  
 Goethe University of Frankfurt, Germany
- 10/2019            **European Women in Mathematics: German Chapter Conference 2019**  
 Talk: *Computational Algebraic Analysis*  
 MPI MiS, Leipzig, Germany
- 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, Germany
- 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, Germany

- 08/2019      **Seminar: Computing with  $D$ -modules**  
Talk: *How to compute? Part 2: Plural*  
MPI MiS, Leipzig, Germany
- 05/19        **Otto–Sturmfels-Day**  
Invited talk: *Algebraic Analysis:  $D$ -Modules and PDEs*  
MPI MiS, Leipzig, Germany
- 04/19        **Workshop:  $D$ -modules and the Riemann–Hilbert-correspondence**  
Talk: *Riemann–Hilbert for  $D$ -modules arising from weighted projective lines*  
Humboldt University of Berlin, Germany
- 10/18        **Séminaire de géométrie algébrique**, invited by Prof. Étienne Mann  
Talk: *Topological Computation of Stokes Data*  
University of Angers, France
- 07/18        **Oberseminar Algebra und Theoretische Mathematik**, invited by Prof. Christian Sevenheck  
Talk: *Topological Computation of Stokes Data of Weighted Projective Lines*  
Chemnitz University of Technology, Germany
- 03/18        **Conference: Singularities, Toric Geometry and Differential Equations**  
Poster: *Topological Computation of Stokes Data in the Setting of Mirror Symmetry*  
Chemnitz University of Technology, Germany
- Winter term 17    **Reading group: Moduli Spaces of Sheaves**  
Talk: *The Moduli functor and Geometric Invariant Theory*  
University of Augsburg, Germany
- 10&12/17      **Scientific exchange with Prof. Maxim Smirnov and Dr. Giordano Cotti**  
Max Planck Institute for Mathematics, Bonn

## SCHOLARSHIPS AND ACHIEVEMENTS

---

- 09/16 – 05/19    **German Academic Scholarship Foundation**  
Doctoral scholarship
- 11/15            **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)
- Soft skills        **Acquisition of the certificate *Hochschullehre der Bayerischen Universitäten***  
Diverse soft skill courses on rhetoric, voice training, moderation, team heading, mentoring students, etc. in the program *ProfiLehre*
- Interests        ▷ **Music** (playing the piano, base guitar, and guitar, singing)  
                      ▷ **Sports** (hiking, yoga, climbing, racing bike, swimming)  
                      ▷ **Arts** (painting)