

Angelina Zheng

CURRICULUM VITAE

Contact Information

University of Tübingen, Department of Mathematics
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Current Position

October 2024 – Present **Alexander von Humboldt fellow**, University of Tübingen

Research interests

Tropical curves, low-gonality curves, rational cohomology of moduli spaces of curves, compactification of moduli spaces of curves

Academic Positions

Oct 2022 – Sep 2024 **Postdoctoral fellow**, University of Roma Tre

Aug 2022 – Dec 2022 **Visiting Postdoc**, University of Stockholm

Feb 2022 – Sep 2022 **Postdoctoral fellow**, University of Pavia

Education

2018 – 2021 (PhD defense: 11 January 2022)

PhD in Mathematics, University of Padova

Title of dissertation: “On the cohomology of moduli spaces of trigonal curves.”

Supervisor: Prof. Orsola Tommasi

2016 – 2018

Master degree (laurea magistrale) in Mathematics, University of Bologna

Curriculum: General and applicative

Title of dissertation: “Comparison theorems of GAGA type and Serre duality.”

Supervisor: Prof. Luca Migliorini

Final mark: 110/110 cum laude

2013 – 2016

Bachelor degree (laurea triennale) in Mathematics, University of Bologna

Title of dissertation: “Classificazione delle curve ellittiche viste come curve algebriche piane.”

Supervisors: Prof. Alessandro Gimigliano and Prof. Davide Aliffi

Final mark: 110/110 cum laude

February 2017 – July 2017

Erasmus student at University of Amsterdam

Publications and preprints

Preprints

Markwig, H. and Zheng, A. *Trigonal and embedded tropical curves of low genus.* preprint arXiv:2602.02257, 2026.

Capobianco, G. and Zheng, A. *A tropical version of Martens' theorem for metric graphs.* preprint arXiv:2512.13208, 2025.

Melo, M. and Zheng, A. *Tropical trigonal curves: the general case.* preprint arXiv:2509.09502, 2025.

Accepted papers

Melo, M. and Zheng, A. *Tropical trigonal curves.* To appear in *Algebraic Combinatorics*, 2025.

Bergström, J. and Zheng, A. *Stable cohomology of moduli spaces of hyperelliptic curves on Hirzebruch surfaces.* Pure and Applied Mathematics Quarterly, Vol. 21, Issue 5, pp. 1893–1930, (2025). <https://dx.doi.org/10.4310/PAMQ.250312162554>.

Wong Y., M. and Zheng, A. *Rational cohomology of $\mathcal{M}_{4,1}$,* Math. Nachr. 298, 1041–1061 (2025). <https://doi.org/10.1002/mana.202400294>.

Zheng, A. *Stable cohomology of the moduli space of trigonal curves,* International Mathematics Research Notices 2024 (2), 1123–1153 (2024). <https://doi.org/10.1093/imrn/rnad011>.

Zheng, A. *Rational cohomology of the moduli space of trigonal curves of genus 5,* manuscripta math. 169, 603–631 (2022). <https://doi.org/10.1007/s00229-021-01347-x>.

Zheng, A. *On the cohomology of moduli spaces of trigonal curves,* PhD thesis (2022).

Research stays

2022 Visiting researcher, Stockholm University, 5 months.

Awards and Scholarship

Nominated as member of the *EMS Young Academy* and elected as a member (Secretary) of the EMYA committee 2025–2028.

Humboldt fellowship for postdoctoral Researchers, 2024–2026. grant for a 24 months Postdoctoral fellowship by Alexander von Humboldt Foundation.

Vergstiftelsen Foundation grant for a 24 months Postdoctoral position (2024–2026) at Stockholm University.

Project: “Stable and unstable cohomology of moduli spaces of curves”.

Main applicant: Prof. Jonas Bergström.

(Renounced in favor of the Humboldt fellowship).

Gini Foundation grant for a research period abroad, 2021.

Winner of “Premio di studio a favore di studenti meritevoli iscritti nell a.a. 2014/2015 a corsi di studio dell’Università di Bologna”.

Talks and Seminars

Upcoming talks

February 10–13, 2026. Invited speaker of the workshop *Heidelberg Moduli Workshop*, Heidelberg, Germany.

April 7–10, 2026. Invited speaker of the workshop *Geometry of curves and moduli*, St Andrews, Scotland.

June 14–19, 2026. Invited speaker of the workshop *Hurwitz spaces and Severi varieties*, Palazzone di Cortona, Cortona, Italy.

Invited speaker at workshops and conferences

September 30–October 3, 2025. Invited speaker of the workshop *Moduli of curves, surfaces and their invariants*, Centro De Giorgi in Pisa, Italy.

June 2–June 6, 2025. Invited speaker of the conference *Giornate di Geometria Algebrica e Argomenti Correlati XVII*, Isola delle Femmine, Palermo, Italy.

December 9–11, 2024. Women in Algebra and Symbolic Computation III in Bad Dürkheim.

March 11–14, 2024. Workshop *Enumerative Geometry and Arithmetic* at University of Leiden.

December 1, 2023. Workshop *Algebraic Geometry in Pavia: young perspectives* at University of Pavia.

September 20–22, 2023. Youngish Researchers Meeting in Algebra and Geometry 2023 at University of Roma Tre.

July 3–7, 2023. 29th Nordic Congress of Mathematicians at Aalborg University.

December 21–22, 2022. XMaths Workshop 2022 at the Department of Mathematics of the University of Bari.

April 6–8, 2022. Fifth Meeting for Young Women in Mathematics “Cohomological Methods in Geometry” at the University of Freiburg.

Invited talks

December 16, 2025. Invited talk for a seminar at *Paderborn University*, Paderborn, Germany.

November 11, 2025. Invited talk for a seminar at the *University of Turin*, Turin, Italy.

May 15, 2025. Seminar “Rational cohomology of $\mathcal{M}_{4,1}$ ” at the *Seminar für Algebraische Geometrie und Arithmetik* of the University of Duisburg-Essen, Essen.

April 10, 2025. Seminar “Tropical trigonal curves” at the *Non linear algebra seminar* of the MPI, Leipzig.

January 9, 2025. Seminar “Tropical trigonal curves” at the *Seminario di Algebra e Geometria* of the University of Bologna.

February 13, 2024. Seminar “Stable cohomology of moduli spaces of hyperelliptic curves on Hirzebruch surfaces” at the *Oberseminar Kombinatorische Algebraische Geometrie* of the University of Tübingen.

November 30, 2022. Seminar at *Insalate di Matematica* at University of Milano-Bicocca.

November 9, 2022. Seminar “Stable cohomology of the moduli space of trigonal curves” at *MDU seminar* at Mälardalens Universitet.

October 19, 2022.

Seminar “Stable cohomology of the moduli space of trigonal curves” at the *KTH & SU Algebra and Geometry seminar* of the KTH Royal Institute of Technology and Stockholm University.

January 29, 2022. Seminar “Stable cohomology of the moduli space of trigonal curves” at *MAP: Moduli Across the Pandemic*, online seminar series.

Contributed talks

July, 2025. Contributed talk at *2025 Summer Research Institute in Algebraic Geometry*, Colorado State University in Fort Collins, CO, USA.

November 6, 2024. Seminar “Tropical trigonal curves” at the *Oberseminar Kombinatorische Algebraische Geometrie* of the University of Tübingen.

February 9, 2023. Seminar “Stable cohomology of moduli spaces of low-gonality curves” at the *Geometry Seminar* of the University of Roma Tre.

March 10, 2022. Seminar “Cohomology of the moduli space of trigonal curves: part 2.” at *Seminari di Algebra e Geometria*, University of Pavia.

March 3, 2022. Seminar “Cohomology of the moduli space of trigonal curves: part 1” at *Seminari di Algebra e Geometria*, University of Pavia.

February 3, 2021. Graduate seminar *Introduction to the moduli space of smooth curves and its compactification* at the University of Padova.

June 26, 2020. Learning seminar *Stable reduction of curves* at the Virtual school Algebraic and Tropical Online Meetings (ATOM).

Teaching and Mentoring

September 2024 . Tutor for the mini-course *Tropical moduli spaces of curves and Jacobians* at *Trieste Algebraic Geometry Summer School (TAGSS) 2024 - Tropical Geometry and Related Topics*

Instructor: Prof. Margarida Melo.

February 2024 – September 2024 . Teaching assistant for the course *Geometry* Department of Mathematics and Physics, University of Roma Tre.

Instructor: Prof. Margherita Lelli Chiesa.

July 2023. Advisor for AGNES summer school on *Intersection Theory on Moduli Spaces* at Brown University.

October 2021 – January 2022. Teaching assistant for the course *Geometry* Department of Physics and Astronomy, University of Padova.

Instructor: Prof. Remke Nanne Kloosterman.

October 2020 – January 2021. Teaching assistant for the course *Geometry* Department of Physics and Astronomy, University of Padova.

Instructor: Prof. Remke Nanne Kloosterman.

October 2019 – January 2020. Teaching assistant for the course *Geometry* Department of Physics and Astronomy, University of Padova.

Instructor: Prof. Remke Nanne Kloosterman.

October 2017 –January 2018. Tutor for the course *Geometry 1A* Department of Mathematics, University of Bologna.

Instructor: Prof. Mirella Manaresi.

Outreach activities

Kids University 2021, University of Padova.

Matematica: che professione?!, 2021, University of Padova.

Circoli Matematici 2020, University of Padova.

Kids University 2019, University of Padova.

Other activities

Organiser of the summer school *Jacobians, Pryms and Degenerations*, which will take place at the University of Tübingen, 15–18 September 2026.

Member of the Unione Matematica Italiana, 2025–Present.

Reviewer for zbMATH, 2020–Present.

PhD representative in the Department Council, Academic Years 2019–2020 and 2020–2021.

Computer and Language skills

Python, Matlab, Singular, Macaulay2, L^AT_EX, HTML.

Italian: native; English: Level C1 (IELTS: 7/9); Chinese: basic; German: Level A2.