Last updated: April 29, 2023

ANNA PARLAK

abparlak@ucdavis.edu
https://annaparlak.github.io/

EMPLOYMENT

University of California Davis, United States *July 2022 - now*
Krener Assistant Professor

University of Oxford, United Kingdom *May 2021 - July 2022*
Postdoctoral Research Associate in Pure Mathematics
Funded by the Simons Investigator Award of Professor Vladimir Marković

EDUCATION

University of Warwick, United Kingdom *October 2017 - August 2021*
Mathematics, PhD
Supervisor: Saul Schleimer
Thesis: *Veering triangulations and polynomial invariants of three-manifolds*

University of Gdańsk, Poland *October 2015 - July 2017*
Mathematics, MSc
Supervisor: Michał Stukow
Thesis: *Roots in the mapping class group of a nonorientable surface* (in Polish)

University of Gdańsk, Poland *October 2012 - July 2015*
Mathematics, BSc
Supervisor: Witold Rosicki
Thesis: *Relations between knots and planar graphs: Tait's constructions, Fox colourings and quandles* (in Polish)

University of Gdańsk & Medical University of Gdańsk, Poland *October 2010 - July 2013*
Biotechnology, BSc
Supervisor: Stanisław Ołdziej
Final project: *Phosphorylation–induced conformational changes of tau protein* (in Polish)

RESEARCH INTERESTS

low-dimensional topology · dynamics on 3-manifolds · polynomial invariants of 3-manifolds · pseudo-Anosov flows · veering triangulations · mapping class groups

PAPERS AND PREPRINTS

1. *Mutations and faces of the Thurston norm ball dynamically represented by multiple distinct flows*
   60 pages. `arXiv:2303.17665 [math.GT]`.
2. *The taut polynomial and the Alexander polynomial*
   To appear in Journal of Topology. `arXiv:2101.12162 [math.GT]`.
3. *Computation of the taut, the veering and the Teichmüller polynomials*
   Exp Math, DOI: 10.1080/10586458.2021.1985656 (2021). `arXiv:2009.13558 [math.GT]`.
4. *Roots of Dehn twists on nonorientable surfaces* (with Michał Stukow)
   J Knot Theor Ramif, Vol. 28, No. 12, 1950077 (2019). `arXiv:1701.00531 [math.GT]`.
5. *Roots of crosscap slides and crosscap transpositions* (with Michał Stukow)
   Period Math Hung, Vol. 75, Issue 2, pp. 413 – 419 (2017). `arXiv:1601.06096 [math.GT]`.

AWARDS

- Warwick Mathematics Institute 2022 Thesis Prize
- The Minister of Science and Higher Education Scholarship 2016/2017 (Poland)

TALKS

2023: **seminars:** UC Berkeley, Australian Geometric Topology Webinar
short talks: Oberwolfach: Low-dimensional topology, January 2023
Computational Problems in Low-dimensional Topology III, April 2023

2022: AMS – EMS – SMF International Meeting, July 2022
seminars: Washington University in St. Louis, University of Bristol, UC Davis
short talks: Mapping class group and Out(F_n), Institut Henri Poincaré, April 2022

2021: North Meets South Colloquium, University of Oxford, November 2021
Nearly Carbon Neutral Geometric Topology Conference, June 2021
seminars: University of Copenhagen, University of Oxford, University of Texas at Austin, Cornell University

2020: **seminars:** Oklahoma State University, University of California Riverside

2017: Young Topologists Meeting 2017, Stockholm, July 2017

2016: The 19th International Workshop for Young Mathematicians: Algebraic Geometry, Jagiellonian University, September 2016
18th Andrzej Jankowski Memorial Lecture Mini Conference, University of Gdańsk, May 2016

2015: The 18th International Workshop for Young Mathematicians: Algebraic and Differential Topology, Jagiellonian University, September 2015.

TEACHING EXPERIENCE

University of California Davis

2022/2023 Instructor for MAT21A **Differential Calculus** (2 classes of ∼100 students in the fall, 1 class of ∼100 students in the spring)
Instructor for MAT21B **Integral Calculus** (1 class of ∼100 students in the spring)

University of Warwick

2020/2021 Teaching assistant for MA131 **Analysis I** (4 hours per week in term 1)
2019/2020 **Supervisor** for 10 first year Maths undergraduates (2 groups)
Teaching assistant for MA131 **Analysis I** (4 hours per week in term 1)
Teaching assistant for MA131 **Analysis II** (1 hour per week in term 2)
2018/2019 **Supervisor** for 10 first year Maths+Physics undergraduates (2 groups)
Teaching assistant for MA3H6 **Algebraic Topology** (1 hour per week teaching, weekly marking of around 40 homework scripts, term 2)

Exam grading: MA131 Analysis I (once), MA251 Algebra I: Advanced Linear Algebra (twice), MA137 Mathematical Analysis (once)

SERVICE

2021/2022 Early Career Researcher Committee (Oxford), Whitehead Library Committee (Oxford)
2018/2019 Organizer of the Topology Reading Seminar (Warwick)