

Publications

- (20) *Heisenberg homology on surface configurations* (with C. Blanchet and A. Shaukat)
[To appear in *Mathematische Annalen*](#) (cf. [arXiv:2109.00515](#), 59 pp.)
- (19) *Polynomiality of surface braid and mapping class group representations* (with A. Soulié)
[To appear in *Transactions of the American Mathematical Society*](#) (cf. [arXiv:2302.08827](#), 58 pp.)
- (18) *When the lower central series stops: a comprehensive study for braid groups and their relatives*
(with J. Darné and A. Soulié)
[Memoirs of the American Mathematical Society](#) 309 (2025), 1563 (130 pp.)
- (17) *The pro-nilpotent Lawrence-Krammer-Bigelow representation* (with A. Soulié)
[Journal of Pure and Applied Algebra](#) 229.6 (2025), 107952 (39 pp.)
- (16) *Action of subgroups of the mapping class group on Heisenberg homologies* (with C. Blanchet and A. Shaukat)
[Contemporary Mathematics](#) 813 (2025), 235–255 (21 pp.)
- (15) *On the homology of big mapping class groups* (with X. Wu)
[Journal of Topology](#) 17.4 (2024), e12358 (41 pp.)
- (14) *Topological representations of motion groups and mapping class groups – a unified functorial construction*
(with A. Soulié)
[Annales Henri Lebesgue](#) 7 (2024), 409–519 (111 pp.)
- (13) *Big mapping class groups with uncountable integral homology* (with X. Wu)
[Documenta Mathematica](#) 29.1 (2024), 159–189 (31 pp.)
- (12) *Homology stability for asymptotic monopole moduli spaces* (with U. Tillmann)
[Proceedings of the Royal Society A](#) 479 (2023), 20230300 (16 pp.)
- (11) *Motivic homological stability of configuration spaces* (with G. Horel)
[Bulletin of the London Mathematical Society](#) 55.2 (2023), 892–913 (22 pp.)
- (10) *Point-pushing actions for manifolds with boundary* (with U. Tillmann)
[Groups, Geometry, and Dynamics](#) 16.4 (2022), 1179–1224 (46 pp.)
- (9) *The Burau representations of loop braid groups* (with A. Soulié)
[Comptes Rendus. Mathématique](#) 360 (2022), 781–797 (17 pp.)
- (8) *Configuration-mapping spaces and homology stability* (with U. Tillmann)
[Research in the Mathematical Sciences](#) 8 (2021) no. 38 (45 pp.)
- (7) *Homological stability for moduli spaces of disconnected submanifolds, I*
[Algebraic & Geometric Topology](#) 21.3 (2021), 1371–1444 (74 pp.)
- (6) *Triple-crossing number and moves on triple-crossing link diagrams* (with C. Adams and J. Hoste)
[Journal of Knot Theory and Its Ramifications](#) 28.11 (2019), 1940001 (20 pp.)
- (5) *Twisted homological stability for configuration spaces*
[Homology, Homotopy and Applications](#) 20.2 (2018), 145–178 (34 pp.)
- (4) *Scanning for oriented configuration spaces* (with J. Miller)
[Homology, Homotopy and Applications](#) 17.1 (2015), 35–66 (32 pp.)
- (3) *A twisted homology fibration criterion and the twisted group-completion theorem* (with J. Miller)
[Quarterly Journal of Mathematics](#) 66.1 (2015), 265–284 (20 pp.)
- (2) *On homological stability for configuration spaces on closed background manifolds* (with F. Cantero)
[Documenta Mathematica](#) 20 (2015), 753–805 (53 pp.)
- (1) *Homological stability for oriented configuration spaces*
[Transactions of the American Mathematical Society](#) 365 (2013), 3675–3711 (37 pp.)

Preprints

- (25) *Compact and finite-type support in the homology of big mapping class groups* (with X. Wu)
[arXiv:2405.03512](#) (20 pp.)
- (24) *Lawrence-Bigelow representations, bases and duality* (with C. Anghel)
[arXiv:2011.02388](#) (25 pp.)
- (23) *Stability for moduli spaces of manifolds with conical singularities*
[arXiv:1807.07558](#) (29 pp.)
- (22) *A comparison of twisted coefficient systems*
[arXiv:1712.06310](#) (31 pp.)
- (21) *Homological stability for subgroups of surface braid groups* (with T. Tran)
[arXiv:1410.0923](#) (10 pp.)

Chapters of books

- (A) Appendix to “*Lectures on Invertible Field Theories*” by S. Galatius (with A. Debray and S. Galatius)
[IAS/Park City Mathematics Series 28 \(2021\), 380–400](#)

Theses

- (II) *Moduli spaces and their fundamental groups: homology, representations and lower central series*
Habilitation thesis, Institute of Mathematics of the Romanian Academy
Submitted in January 2024; defended in June 2024.
Examiners: Louis Funar (Grenoble), Sergiu Moroianu (IMAR), Victor Vuletescu (Bucharest)
Thesis text available at: mdp.ac/habilitation/habilitation-thesis.pdf
- (I) *Configuration spaces and homological stability*
DPhil thesis, University of Oxford
Submitted in December 2012; defended in February 2013.
Supervisor: Ulrike Tillmann
Examiners: Graeme Segal (Oxford), Nathalie Wahl (Copenhagen)
Archived in the [Oxford University Research Archive](#)
URL: <https://ora.ox.ac.uk/objects/uuid:7e056dbd-2cdd-4eac-9473-53f750371f9a>