

Publication List of Corinna Ulcigrai

Peer-Reviewed Journal Publications

- [1] Ergodicity of explicit logarithmic cocycles over IETs and ergodicity of their extensions,
joint work with P. Berk and F. Trujillo
Mathematische Annalen 393, n. 1, 1195–1239 (2025),
- [2] Regularity of conjugacies of linearizable generalized interval exchange transformations,
joint work with S. Ghazouani
Comm. Math. Phys. 406, n. 2, 35 pages (2025),
- [3] Affine IETs with a singular conjugacy to an IET,
joint work with F. Trujillo, (23 pages)
to appear in Annali della Scuola Normale Superiore di Pisa, Classe di Scienze
(Preprint available at arXiv:2210.14202)
- [4] A priori bounds for GIETs, affine shadows and rigidity of foliations in genus two,
joint work with S. Ghazouani
Publ. Math. Inst. Hautes Études Sci. 138, 229–366 (2023),
- [5] On the asymptotic growth of Birkhoff integrals for locally Hamiltonian flows,
and ergodicity of their extensions, *joint work with K. Frączek*,
to appear in Commentarii Mathematici Helvetici **99** (2024), no. 2, 231–354;
- [6] Mixing for smooth time-changes of general nilflows,
joint work with A. Avila, G. Forni and D. Ravotti
Advances in Mathematics 385 (2021), Paper No. 107759 (65 pages)
- [7] Singularity of the spectrum for smooth area-preserving flows in genus two,
and translation surfaces well approximated by cylinders,
joint work with J. Chaika, K. Frączek and A. Kanigowski
Communications in Mathematical Physics 381 (2021), 1369–1407
- [8] On disjointness properties of some parabolic flows,
joint work with A. Kanigowski and M. Lemanczyk,
Inventiones Mathematicae **221** (2020), 1–111.
- [9] On Roth type conditions, duality and central Birkhoff sums for i.e.m.,
joint work with S. Marmi and J.-C. Yoccoz,
in *Some aspects of the theory of dynamical systems: a tribute to Jean-Christophe Yoccoz*,
Astérisque 416 (2020), Vol. 2, 65–132.
- [10] Persistent Hall rays for Lagrange spectra at cusps of Riemann surfaces,
joint work with M. Artigiani, L. Marchese,
Ergodic Theory and Dynamical Systems 40 (2020), no. 8, 2017–2072.
- [11] Cutting sequences on Bouw-Möller surfaces: an S-adic characterization.
joint work with D. Davis and I. Pasquinelli,
Annales scientifiques de l'École normale supérieure 52 (2019), no. 4, 927–1023.

- [12] Multiple mixing and parabolic divergence in smooth area-preserving flows on higher genus surfaces, *joint work with* A. Kanigowski, J. Kulaga-Przymus, *Journal of the European Mathematical Society (JEMS)* 21 (2019), no. 12, 3797–3855.
- [13] A temporal Central Limit Theorem for real-valued cocycles over rotations. *joint work with* M. Bromberg, *Annales de l'Institut Henri Poincaré (B) Probabilités et Statistiques* 54 (2018), no. 4, 2304–2334.
- [14] Genericity on curves and applications: pseudo-integrable billiards, Eaton lenses and gap distributions, *joint work with* K. Frączek and R. Shi, *Journal of Modern Dynamics*, vol. 12 (2018), pp. 55–122
- [15] The Lagrange spectrum of some square-tiled surfaces. *joint work with* P. Hubert, S. Lelièvre and L. Marchese, *Israel Journal of Mathematics* 225 (2018), no. 2, 553–607.
- [16] The Lagrange spectrum of a Veech surface has a Hall ray. *joint work with* M. Artigiani and L. Marchese, *Groups, Geometry and Dynamics*, Vol. 10, no. 4 (2016), pp. 1287–1337
- [17] Lagrange Spectra in Teichmueller Dynamics via renormalization, *joint work with* P. Hubert and L. Marchese, *Geometric and Functional Analysis*, Vol. 25, no. 2 (2015), 180–255.
- [18] Diagonal changes for surfaces in hyperelliptic components, *joint work with* V. Delecroix, *Geometriae Dedicata*, Vol. 176 (2015), 117–174,
- [19] Ergodic directions for billiards in a strip with periodically located obstacles, *joint work with* K. Frączek, *Communications in Mathematical Physics*, Vol. 327, no. 2 (2014), 643–663.
- [20] Non-ergodic $\mathbb{Z}$ -periodic billiards and infinite translation surfaces, *joint work with* K. Frączek, *Inventiones Mathematicae*, Vol. 197, no. 2 (2014), 241–298.
- [21] Ergodic properties of infinite extensions of area-preserving flows *joint work with* K. Frączek, *Mathematische Annalen*, Vol. 354 (2012), 1289–1367.
- [22] Time-Changes of Horocycle Flows, *joint work with* G. Forni, *Journal of Modern Dynamics* Vol. 6, no. 2 (2012), 251–273.
- [23] Mixing for time-changes of Heisenberg nilflows, *joint work with* A. Avila and G. Forni, *Journal of Differential Geometry*, Vol. 89, no. 3 (2011), 369–410
- [24] Absence of mixing in area-preserving flows on surfaces, *Annals of Mathematics*, Vol. 173, no. 3 (2011), 1743–1778.
- [25] Beyond Sturmian sequences: coding linear trajectories in the regular octagon, *joint work with* J. Smillie, *Proceedings of the London Mathematical Society* Vol. 102, no. 2 (2011), 291–340.

- [26] Geodesic flow on the Teichmüller disk of the regular octagon, cutting sequences and octagon continued fractions maps,
joint work with J. Smillie,
in *Dynamical numbers: interplay between dynamical systems and number theory*, AMS Contemporary Mathematics, vol. 532 (2010), pp. 29-65.
- [27] Estimates from above of certain double trigonometric sums,
joint work with Ya. G. Sinai
Journal of Fixed Point Theory and Applications. Vol. 6, no. 1 (2009), 93 - 113.
- [28] Weak Mixing for Logarithmic Flows over Interval Exchange Transformations,
Journal of Modern Dynamics, Vol. 3, no. 1 (2009), 35–49.
- [29] A Limit Theorem for Birhoff sums of non-Integrable Functions over Rotations,
joint work with Ya. G. Sinai,
in *Probabilistic and Geometric Structures in Dynamics*,
Contemporary Mathematics Series, American Mathematical Society, (2008)
- [30] A Renewal-type Limit Theorem for Continued Fractions and the Gauss Map,
joint work with Ya. G. Sinai
Ergodic Theory and Dynamical Systems Vol.28, no. 2 (2008), 643–655.
- [31] Mixing for Suspension Flows over Interval Exchange Transformations,
Ergodic Theory and Dynamical Systems Vol.27, no. 3 (2007) 991–1035.
- [32] On Ergodic Properties of Flows on Surfaces.
Ph.D. Thesis, *Princeton University*, (2007)
- [33] A condition for Continuous Spectrum of an Interval Exchange Transformation,
joint work with A. Bufetov and Ya. G. Sinai,
American Mathematical Society Translations Vol. 217 (2006), 23-35.
- [34] Weak Mixing in Interval Exchange Transformations of Periodic Type,
joint work with Ya. G. Sinai
Letters in Mathematical Physics, Vol. 74, no. 2 (2005), 111-133.

Book chapters, surveys and proceedings

- [35] Dynamics and "arithmetics" of higher genus surface flows,
Proceedings International Congress of Mathematicians —2022,
Vol. 5, pp. 3576–3609. EMS Press, Berlin (2023)
- [36] Ergodic and Spectral Theory of Area-Preserving Flows on Surfaces,
joint work with K. K. Frączek,
in *Encyclopedia of Complexity and Systems Science, Ergodic Theory*, 333–367
edited by C. E. Silva, A. I. Danilenko, Springer, New York, (2023)
- [37] Slow chaos in surface flows,
Bollettino Unione Matematica Italiana 14, 231-255 (2021)

- [38] Mathematical billiards, chaos and "infinite" doughnuts: why mathematicians "play" billiards, from polygons to the Ehrenfest model. (Italian, survey article), *Mat. Cult. Soc. Riv. Unione Mat. Ital.* (I) 3 (2018), no. 1, 13–30.
- [39] Shearing and Mixing in Parabolic Flows,
in Proceedings of the 6th European Congress in Mathematics
EMS Publishing House (2014), 691–705.

Prepublications

- [40] Disjointness of rescalings of smooth area preserving flows on surfaces,
joint work with P. Berk *Preprint* arXiv:2606.10714 (61 pages)
- [41] Singularity of the spectrum of typical minimal smooth area-preserving flows in any genus,
joint work with A. Kanigowski and K. Fraczek *Preprint* arXiv:2505.13193 (59 pages)
- [42] Dynamical decomposition of generalized interval exchange transformations,
joint work with C. Fougerson and S. Schmidhuber *Preprint* arXiv:2504.19704 (44 pages)