

# NICOLÒ PAVIATO

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Faculty of Mathematics and Computer Science, Weizmann Institute of Science,  $\diamond$  Rehovot, Israel

I am a postdoctoral researcher in dynamical systems and ergodic theory, working under the mentorship of Prof. Omri Sarig.

My research focuses on statistical properties of hyperbolic and expanding dynamical systems, with a particular emphasis on the central limit theorem and its relative functional version. More recently, I have also worked on typical behaviours of random sequences of independently drawn digits, in connection with Poisson genericity.



## EDUCATION

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<b>University of Warwick, UK</b> Ph.D. in Mathematics & Statistics	2019 - 2022
<b>University of Warwick, UK</b> M.Sc. in Mathematics & Statistics	2018 - 2019
<b>University of Pavia, Italy</b> M.Sc. in Mathematics	2015 - 2018
<b>University of Pavia, Italy</b> B.Sc. in Mathematics	2011 - 2015

## PUBLICATIONS AND PREPRINTS

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<b>Decay in norm of transfer operators for semiflows</b> with I. Melbourne and D. Terhesiu - <i>Studia Math.</i> – <a href="https://arxiv.org/abs/2102.00026">arxiv.org/abs/2102.00026</a>	2022
<b>Nonexistence of spectral gaps in Hölder spaces for continuous time dynamical systems”</b> with I. Melbourne and D. Terhesiu – <i>Israel. J. Math</i> – <a href="https://arxiv.org/abs/2104.04608">arxiv.org/abs/2104.04608</a>	2022
<b>Rates for maps and flows in a deterministic multidimensional weak invariance principle</b> – <i>Preprint</i> – <a href="https://arxiv.org/abs/2406.06123">arxiv.org/abs/2406.06123</a>	2025
<b>A threshold for Poisson behavior of non-stationary product measures.</b> with M. Hochman – <i>Ergodic Theory Dyn. Syst., to appear.</i>	2025
<b>Limiting behaviour of pattern counts in biased binary strings.</b> with J.V. Kogan – <i>Preprint</i> – <a href="https://arxiv.org/abs/2509.24654">arxiv.org/abs/2509.24654</a>	2025

## TEACHING

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### Teaching Assistant

- Ergodic Theory - 4th year maths *Warwick, 2022*
- Mathematical Analysis - 1st year non-maths " , 2021
- Stochastic Analysis - 4th year maths " , 2020
- Stochastic Processes - 2nd year statistics " , 2020
- Mathematical Analysis 3 - 2nd year non-maths " , 2019-2020
- Mathematics and Statistics - 1st year pharmacology *Pavia, 2016*

### Supervisions

- I supervised two small groups of 2nd year maths students for ten weeks. *Warwick, 2019*

## SELECTED TALKS

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- Methods In Nonlinear D. S. and E. T.**(University of Warwick) *December 2024*  
"A threshold for Poisson behavior of non-stationary product measures"
- Dynamical systems seminar** (Hebrew University of Jerusalem) *December 2023*  
"Rates for a multidimensional weak invariance principle"
- Lunch seminar** (Hebrew University of Jerusalem) *June 2023*  
"Martingales and CLT in Dynamics"
- 2nd Jangada Dinâmica** (Universidade Federal do Ceará, Fortaleza) *November 2022*  
"Rates of convergence for a deterministic Weak Invariance Principle"
- Junior Ergodic Theory Meeting** (ICMS, Edinburgh) *March 2022*  
"Absence of a spectral gap for flows"
- Ergodic theory and dynamical system seminar** (University of Warwick) *October 2021*  
"Rates of convergence for a functional CLT"
- iPOD seminar** (Leiden University) *October 2021*  
"Rates of convergence for a functional CLT"
- Cambridge joint CDT conference** (University of Cambridge, online) *December 2020*  
"A family of continuous-time dynamical systems with a trivial CLT"

## CONFERENCES/SCHOOLS

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- Beyond Uniform Hyperbolicity** *June 2025*  
(ICTP, Trieste)
- Methods In Nonlinear Dynamical Systems and Ergodic Theory** *December 2024*  
(University of Warwick, Coventry)
- Workshop on statistical properties of chaotic dynamics in and out of equilibrium** *August 2024*  
(Erdős Center, Budapest)
- School on probabilistic aspects of hyperbolic dynamical systems** *August 2024*  
(Erdős Center, Budapest)
- Dynamical Systems: Geometric and Statistical Properties** *July 2024*  
(University of Warwick, Coventry)

<b>Zurich Dynamic Conference</b> (University of Zurich, Zurich)	<i>June 2023</i>
<b>Zurich Dynamic School</b> (University of Zurich, Zurich)	<i>June 2023</i>
<b>Probabilistic methods in dynamics</b> (Centro di Ricerca Matematica Ennio De Giorgi, Pisa)	<i>May 2023</i>
<b>The Lorentz Gas</b> (Lorentz Center, Leiden)	<i>December 2022</i>
<b>2nd Jangada Dinâmica</b> (Universidade Federal do Ceará, Fortaleza)	<i>November 2022</i>
<b>International Conference on Dynamical Systems</b> (IMPA, Rio de Janeiro)	<i>October 2022</i>
<b>Conference celebrating the 100th anniversary of Rényi's birth</b> (Hungarian academy of sciences, Budapest)	<i>June 2022</i>
<b>Limit Theorems for Slowly Mixing Systems</b> (ICMS, Edinburgh)	<i>June 2022</i>
<b>Junior Ergodic Theory Meeting</b> (ICMS, Edinburgh)	<i>March 2022</i>
<b>Expanding dynamics: the school</b> (Centro de modelamiento matematico, University of Chile, online)	<i>June 2021</i>
<b>Spring school on transfer operators (classical and modern techniques)</b> (Bernoulli center, Lausanne, online)	<i>March 2021</i>
<b>Statistical aspects of geodesic flows in nonpositive curvature</b> (University of Warwick, Coventry)	<i>January 2020</i>
<b>One day ergodic theory meeting</b> (Queen Mary University, London)	<i>November 2019</i>
<b>Thermodynamic formalism: ergodic theory and geometry</b> (University of Warwick, Coventry)	<i>July 2019</i>
<b>Summer course in mathematics</b> (Scuola matematica interuniversitaria, Cortona, Italy)	<i>July 2018</i>

## OTHER

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Aside from Mathematics, I'm a sociable person who enjoys hanging out and appreciating my surroundings. I value diversity in both people and food, and I always enjoy a good conversation, especially when accompanied by good wine. My hobbies include running, playing music, and going to the gym. In my downtime, I dedicate myself to learning Hebrew.