

# Paolo Marimon

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## Personal Details

Languages Italian (native language), Spanish (native language), English (fluent), Catalan (elementary), German (A1).  
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## Positions

2023-2024 **Postdoc**, TU Wien. Funded by POCOCOP (ERC Synergy Grant).

## Education

2019-2023 **PhD in Pure Mathematics**, Imperial College London.  
Admin Roth Scholarship. Supervisors: Prof. David Evans, Dr. Charlotte Kestner. Thesis: Measures and amalgamation properties in  $\omega$ -categorical structures.  
2018 **Summer Research Project**, University of Oxford.  
(July-Sept.) Topic of research: The Separation of Right Angled Artin Groups (geometric group theory). Supervisor: Dr. Richard Wade. University of Oxford.  
2015-2019 **Master of Mathematics and Philosophy**, University of Oxford, Worcester College.  
Part A and B: First Class. Part C: First Class. (PartA&B correspond to my undergraduate studies).  
Dissertation in mathematics: Categoricity for Totally Transcendental Theories; with Prof. Ehud Hrushovski. Thesis in philosophy: The metaontology of thin objects; with Prof. James Studd.  
2010- 2015 **Liceo Scientifico Guido Castelnuovo (Scientific High School)**, Firenze.  
Short thesis on cartography, irregular perspectives and their mathematics.

## Preprints & Articles

2022 **On the non-measurability of  $\omega$ -categorical Hrushovski constructions.** ArXiv:2208.06323. Submitted.  
2022 **Invariant Keisler measures for  $\omega$ -categorical structures.** ArXiv:2211.14628. Submitted.  
2024 **When measures don't care about structures.** Joint work with Samuel Braunfeld and Colin Jahel. In preparation.  
2024 **Minimal polymorphisms over permutation groups.** Joint work with Michael Pinsker. In preparation.

## Talks

Mar 2024 **Minimal operations over permutation groups.** Algebra seminar. Korean Institute of Advanced Studies.  
Mar 2024 **When measures don't care about structures (and when they do).** Logic seminar. Yonsei University.  
Nov 2023 **Measures in higher arity homogeneous structures.** Algebra seminar, TU Wien.  
Sep 2023 **Measures in homogeneous 3-hypergraphs.** Model Theory Workshop. Wroclaw.  
Jun 2023 **Measures in ternary homogeneous structures.** SEEMOD. University of Oxford.

- Jan 2023 **Invariant Keisler measures in simple  $\omega$ -categorical structures.** Carnegie Mellon University logic seminar.
- Nov 2022 **Universally measure zero non-forking formulas in simple omega-categorical Hrushovski constructions.** 7th French-Kazakh Colloquium in Model Theory. Institut Camille Jordan. Lyon.
- Jun 2022 **Invariant Measures in  $\omega$ -categorical Hrushovski constructions.** SEEMOD & LYMoTS meeting. University of Manchester.
- Mar 2022 **Non-measurability of omega-categorical Hrushovski constructions.** European Conference on Interdisciplinary Model Theory - ECIMT. Münster. Talk on Invariant Keisler measures and measurability in Hrushovski constructions.
- Jan 2022 **Non-MS-measurability of omega-categorical Hrushovski constructions.** British Postgraduate Model Theory Conference (BPGMTC). Manchester & online.
- Dec 2021 **Non-MS-measurability of omega-categorical Hrushovski constructions.** South and East of England Model Theory Network Conference (SEEMOD). Queen Mary University of London.

## Seminars, other Conferences & Visits

- Mar 2024 **Two weeks visits at the Korean Institute of Advanced Studies (KIAS).** Visiting Javier de la Nuez Gonzales. Funded by the KIAS.
- Nov 2023 POCOCOP meeting. Charles University, Prague.
- Sep 2023 Model Theory and Groups conference in celebration of Katrin Tent's 60th birthday. Münster.
- Sep 2023 CSP World Congress. Weißensee.
- Dec 2022 Model Theory Conference in celebration of Ludomir Newelski's 60th birthday. Będlewo.
- Nov 2022 **One month visit to the Institut Camille Jordan (ICJ),** Université Claude Bernard, Lyon 1, France. Funded by the ICJ.
- Sep 2022 Warwick-Oxford-Manchester-Bristol-London (WOMBL) meeting in additive combinatorics and analytic number theory.
- Jul-Aug 2022 UNIMOD 2022. LMS Research School: Introduction to Model Theory + Workshop: Practical and Structural Model Theory + EMS Summer School: Applications of Model Theory. Presented a poster: **Invariant Keisler Measures in  $\omega$ -categorical Hrushovski Constructions.** I also contributed by typing the exercises for the problem classes.
- Jun 2022 Model Theory and Applications. Cetraro. Presented a poster: **Invariant Keisler Measures in  $\omega$ -categorical Hrushovski Constructions.**
- Jun 2022 Mathematics PhD Symposium at Imperial College London: Presented a poster on invariant Keisler measures for a general mathematical audience.
- Jun 2021 Short Model Theory Huddle (SMTH). Online.
- Apr 2021 British Postgraduate Model Theory Conference (BPGMTC). Online.
- Jan 2020 British Postgraduate Model Theory Conference (BPGMTC). Leeds.
- Dec 2019 South and East of England Model Theory Network Conference (SEEMOD). Imperial College London.

## Reading Groups

- 2023-ongoing **Finite Structures with Few Types,** by G. Cherlin and E. Hrushovski. Organiser jointly with Aris Papadopoulos. TU Wien, Leeds, University of Notre Dame, Imperial College London, University of Cambridge. Presented on §2.1.

- 2023-ongoing **CSP reading group.** Organiser. TU Wien, TU Dresden, Charles University (Prague), Leeds and Cambridge. Website with recordings can be found at: [csreadinggroup.github.io](https://csreadinggroup.github.io). Presented on § 1.1-1.2, 2.6-2.7, 3.5-3.7, 4.6-4.7, 6.1.4-6.1.8
- 2023 Algebra seminar on "Graph Homomorphisms and Universal Algebra" by Manuel Bodirsky. TU Wien. Presented on cyclic terms and the cyclic terms theorem.
- 2023 Reading group on "On  $NSOP_2$  theories" by S. Mutchnik. Organiser. Joint reading group between Imperial and the Institut Camille Jordan. Presented on §2 and §5.
- 2022-2023 Reading group on "Oligomorphic Permutation Groups" by Peter Cameron. Leeds & online. Presented § 3.1-3.4, § 4.5-4.9.
- 2019-2022 Imperial College Logic Seminar. Presented during the reading group on *Model Theory for Metric Structures* by Itaï Ben Yaacov et al. with talks on: "Connectives and Construction of Models in Continuous Logic" and "The Model Theory of Probability Spaces". Presented during reading group on Simple Theories with talks on the tree property.
- Mar-Apr 2022 Reading Group on "Definability Patterns and their Symmetries" by Ehud Hrushovski. Online. Charles University, Prague & Imperial College London.
- Jan-Jun 2022 University of East Anglia logic seminar and logic group meetings.

## Teaching

- 2024 **Model theory.** TU Wien. Problem classes.
- 2022 **Associate Fellowship of the Higher Education Academy.** Approved through the Imperial College London STAR Framework.
- 2019-2023 **Graduate Teaching Assistant** at Imperial College London: Introduction to University Mathematics (2020, 2022); Linear Algebra and Groups (2019-2022); Latex workshops for first year projects (2020-2022); Mathematics Pre-Arrival Course (2021-2022); Commutative Algebra (2020).
- 2020-2022 **Senior Graduate Teaching Assistant:** Analysis II (2nd year analysis, metric spaces and topology) (2020-2022).
- 2020-2021 **Personal tutoring.** Grosvenor Tutors. Tutoring students in their final year of high school in mathematics and philosophy.

## Awards

- 2023 **Runner-up prize for the PhD Symposium poster competition** Imperial College London.
- 2022 **Travel Grant from the Association for Symbolic Logic (ASL)** for Unimod 2022.
- 2017 **Gibbs Prize for FHS Mathematics and Philosophy Part A.** Best performance in Mathematics for Mathematics & Philosophy Part A exams.
- 2016 **Scholarship, Worcester College.** for performance in first year exams.

## Postgraduate Courses

- 2019 Infinite Groups. By Dr. Isabel Müller. Imperial College London.
- 2019 Commutative Algebra. By Prof. Alexei Skorobogatov. Imperial College London.
- 2020 Algebraic Geometry. By Prof. Kevin Buzzard. Imperial College London.
- 2020 Lectures on Model Theoretic Tree Properties. By Dr. Nicholas Ramsey. UCLA. Online.
- 2021 Graph Theory. By Dr. Robert Barham. Imperial College London. Online.
- 2021 Graphs Defined on Groups. By Prof. Peter Cameron. LTCC Online Intensive Course.

2021 Topics in Pure Model Theory. By Prof. Anand Pillay, Prof. Itay Kaplan & Dr. Gabriel Conant. Fields Institute. Toronto. Online.

2022 Linear Algebraic Groups. By Dr. Adam Thomas. TCC course.

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## Professional Development Courses

2019-2022 I have attended various professional development courses organised by the Graduate School and the Department of Mathematics of Imperial College London including: Maths GTA training, Teaching: Introduction to Assessment and Feedback for Learning, Teaching: Introduction to Learning and Teaching, Teaching: Performative Aspects of Teaching, Teaching: Microteaching, GTA Retreat for Associate Fellowship to the Higher Education Academy, Maximising Your Management Skills: Time Management for your Doctorate.

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## Academic Positions

2018-2019 Mathematics & Philosophy representative for MURC (Mathematics Undergraduate Representation Committee) and JCMP (Joint Committee for Mathematics & Philosophy).

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## Other Interests

**Piano:** Current teacher: Mengyang Pang. Currently playing: Brahms' Intermezzo Op.118 No.2.

**Philosophy:** Interested in early analytic philosophy (Frege, Russell, Wittgenstein and Ramsey), philosophy of logic and mathematics, philosophy of quantum physics. Between 2020 and 2021 I participated regularly to meetings of the In Parenthesis reading group (focusing on the work of Anscombe, Murdoch, Foote, Midgley and Diamond).

**Drawing & Painting:** Centro D'arte Martenot, Francesca Del Panta (2011-present). Life drawing at the Ruskin School of Art (2018). Participating to Inktober since 2019.

**Origami:** Advanced practitioner and creator. Interested in the links between Mathematics and Origami. Experience teaching origami and mathematics with origami.

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## Software & Programming Languages

- Latex (also experience in teaching Latex).
- For mathematics: MatLab; Wolfram Mathematica; Magma.
- Graphics: Adobe Creative Cloud: Illustrator; Photoshop; Indesign. Inkscape.
- Office: Publisher; Excel; Power point; Word.