Curriculum Vitae

Aristotelis Panagiotopoulos

Personal and Contact Information

Affiliation	Institut für Mathematische Logik und Grundlagenforschung Fachbereich Mathematik und Informatik der Universität Münster
Current Address	Orléans-Ring 10, 48149, Münster, Germany
Contact	aristotelis.panagiotopoulos@gmail.com, +49 176 640 44 789
Website	http://apanagiotopoulos.org
Research	My research interests lie in the interactions between descriptive set theory, dynamics of large topological groups, operator theory, and algebraic topology.

Academic Positions

2020 Sep - Present	**Postdoctoral Research Fellow**, Cluster of Excellence: Dynamics–Geometry–Structure, *Institute for Mathematical Logic and Foundational Research* University of Münster, Germany.
2017 Sep-2020 Jun	**Harry Bateman Research Instructor**, Department of Mathematics, *California Institute of Technology*, USA.

Education

2017 Aug	**PhD in Mathematics**, *University of Illinois at Urbana-Champaign*, USA **Thesis**: Structures and Dynamics; Supervisor: S. Solecki
2012 Aug	**Diploma in Applied Mathematics and Physics**, *National Technical University of Athens*, Greece

Scholarships and Awards

2014 Aug-2015 May	Focal Point Breakthrough Grant, graduate college at UIUC *Transnational Solidarity Initiative* research group
2014 Spring	Research scholarship, University of Illinois Research Board
2013 Spring	Research scholarship, University of Illinois Research Board
2012 Aug	Graduation merit award for academic excellence School of Applied Mathematics and Physics, NTUA

Past Employment

2010 Sep - 2012 Jun Curriculum Design & Instructor
Art & Mathematics, Herakleidon Museum, Athens, Greece

Math writing

Publications and Preprints

Universality vs Genericity and C_4-free graphs. [Arxiv]
Submitted, (2021), joint with K. Tent.

The automorphism group of the random poset does not admit a generic pair. [Arxiv]
Submitted, (2020), joint with A. Kwiatkowska.

The definable content of homological invariants I: Ext *&* $\lim^1$ [Arxiv]
Preprint, (2020), joint with J. Bergfalk and M. Lupini.

Dynamical obstructions for classification by (co)homology and other TSI-group invariants. [Arxiv]
Transactions of the American Mathematical Society (to appear), joint with S. Allison.

The generic combinatorial simplex. [Arxiv]
A. Panagiotopoulos, S. Solecki,
Submitted, (2020).

Definable (co)homology, pro-torus rigidity, and (co)homological classification. [Arxiv]
Preprint, (2019), joint with J. Bergfalk and M. Lupini

On Polish groups admitting non-essentially countable actions. [Arxiv]
Ergodic Theory and Dynamical Systems, doi:10.1017/etds.2020.133, (2020), 1-15,
joint with A.S. Kechris, M. Malicki, and J. Zielinski,

Examples of weak amalgamation classes. [Arxiv]
Submitted (2019), joint with A. Krawczyk, A. Kruckman, and W. Kubiś.

A combinatorial model for the Menger curve. [Arxiv]
Journal of Topology and Analysis, doi:10.1142/S1793525320500478, (2020) 1-27,
joint with S. Solecki.

Higher dimensional obstructions for star reductions. [Arxiv]
Fundamenta Mathematicae, (2021), to appear, joint with A. Kruckman.

Games orbits play and obstructions to Borel reducibility. [Arxiv]
Groups, Geometry, and Dynamics, 12(4), (2018), 1461-1483,
joint work with M. Lupini.

Compact spaces as quotients of projective Fraïssé limits. [Arxiv]
Preprint, (2016).

Extendability of automorphisms of generic substructures. [Arxiv]
Israel Journal of Mathematics, 208, (2015), 483-508.

Work in preparation

Symmetric models and levels of unpinnedness. A. Panagiotopoulos, A. Shani

Modular Ramsey spaces and hyperfiniteness. A. Panagiotopoulos, A.Y. Wang

A note on ultrahomogeneity. A. Kaïchouh, I. Müller, A. Panagiotopoulos

Course notes

Computability III: advanced topics in computability.
A. Panagiotopoulos, quarter-long course notes [pdf]

Computability II: Gödel's incompleteness theorems.
A. Panagiotopoulos, quarter-long course notes [pdf]

A graduate course in groups and dynamics.
A. Panagiotopoulos, quarter-long graduate course notes [pdf]

Invited talks, Colloquia, and Seminars

2021 Feb 16	Set Theory Reading Group Seminar, Carnegie Mellon University, USA **Title:** *Ulam stability for of abelian non-archimedean Polish groups*
2021 Feb 16	Logic Seminar, Carnegie Mellon University, USA **Title:** *The definable content of Čech cohomology*
2020 Dec 6	CMS Winter Meeting 2020, Montreal, Canada **Title:** *Dynamical obstructions to classification by (co)homology*
2020 Nov 10	Logic seminar, University of Florida, USA **Title:** *Dynamical obstructions to classification by (co)homology*
2020 Oct 15	Logic seminar, University of Münster, Germany **Title:** *Dynamical obstructions to classification*
2020 Sep 14	Topologia seminar, Uniwersytet Wrocławski, Poland **Title:** *Dynamical obstructions to classification by (co)homology*
2020 Mar 01	South Eastern Logic Symposium 2020, Gainesville, Florida, USA **Title:** *Definable (co)homology and classification of solenoids*
2020 Jan 24	Logic Colloquium, University of California at Los Angeles, USA **Title:** *Definable (co)homology and classification of solenoids*
2019 May 03	Logic Colloquium, University of California at Los Angeles, USA **Title:** *Bernoulli shifts for Polish groups and a question of Kechris*
2019 Nov 17	Plenary speaker at Caltech Harvey Mudd 2019 Math Competition **Title:** *The mathematics of impossible*
2019 Nov 09	Advances in Functional Analysis, AMS Fall West. Sec. Meeting, USA **Title:** *Unitary equivalence is hard*
2019 Nov 09	Fractal Geometry & Dynamical Systems, AMS Fall West. Sec. Meeting **Title:** *A combinatorial model for the Menger curve*
2019 May 24	UCLA-Caltech Cabal Seminar, University of California at Los Angeles

	Title: *Higher dimensional obstructions for star reductions*
2019 May 21	Set theory, ASL North American Annual Meeting, New York, USA **Title:** *Higher dimensional obstructions for star reductions*
2019 May 03	Logic Colloquium, University of California at Los Angeles, USA **Title:** *Bernoulli shifts for Polish groups and a question of Kechris*
2019 March 21	Combinatorics Seminar, Univ. of Victoria at Wellington, New Zealand **Title:** *The Fraïssé construction*
2019 March 19	Logic Colloquium, University of Victoria at Wellington, New Zealand **Title:** *Dynamics as obstruction to classification*
2018 Dec 07	Logic Seminar, Carnegie Mellon University, USA **Title:** *Higher dimensional obstructions for star reductions*
2018 Dec 05	Mathematics Logic Seminar, Cornell University, USA **Title:** *Higher dimensional obstructions for star reductions*
2018 Oct 27	Advances in Operator Theory, Operator Algebras, and Operator Semigroups, AMS Fall Western Sectional Meeting, San Francisco, USA **Title:** *Unitary equivalence is hard*
2018 May 17	Set theory, ASL North American Annual Meeting, Macomb, USA **Title:** *Higher dimensional obstructions for star reductions*
2018 Jan 13	Joint Mathematics Meetings, San Diego, USA **Title:** *Games orbits play*
2017 Nov 13	Logic & Set Theory Seminar, University of California at Irvine **Title:** *Games orbits play*
2017 Oct 20	Logic Colloquium, University of California at Los Angeles **Title:** *Games orbits play*
2017 June 14	6th Cornell Conference on Analysis, Probability, and Mathematical Physics on Fractals, Cornell University, USA **Title:** *A projective Fraïssé presentation of the Menger curve*
2016 Dec 09	Ramsey 2016 DocCourse, Prague, Czech Republic **Title:** *The n-simplex as a projective Fraisse limit*
2016 May 19	Logic Seminar, California Institute of Technology, USA **Title:** *Extendability of automorphisms of generic substructures*
2016 April 09	AMS Spring Western Sectional Meeting, Salt Lake City, Utah **Title:** *Menger compacta and projective Fraïssé limits*
2016 March 24	Mathematics Colloquium, National Technical Univ. of Athens, Greece **Title:** *Fraïssé limits and extreme amenability*
2016 March 05	Descriptive Set Theory Day, University of Illinois at Chicago, USA **Title:** *Extendability of automorphisms of generic substructures*
2016 March 02	Graduate Colloquium, University of Illinois at Urbana-Champaign **Title:** *Menger compacta: where logic meets homotopy*
2016 Feb 16	Logic Seminar, University of Illinois at Chicago, USA **Title:** *Menger compacta and projective Fraïssé limits*
2015 Dec 07	CMS Winter Meeting, Montreal, Canada **Title:** *Menger compacta and projective Fraïssé limits*
2015 July 03	When Topological Dynamics meets Model Theory, Marseilles, France **Title:** *Compact spaces as projective Fraïssé limits*

Scientific visits

March 2019 (2 weeks)	Visiting *Victoria University of Wellington*. *Host*: M. Lupini.
2018 December (1 week)	Visiting *Carnegie Mellon University*. *Host*: J. Zielinski & Clinton Conley.
2018 December (1 week)	Visiting *Cornell University*. *Host*: S. Solecki.
2016 May (2 weeks)	Visiting California Institute of Technology. *Host*: M. Lupini.

Teaching experience

California Institute of Technology.

2020 Spring	Descriptive set theory (Math 116c)
2020 Winter	Axiomatic set theory (Math 116b)
2019 Fall	Mathematical Logic (Math 116a)
2019 Spring	Computability III: advanced topics (Math 117c). *Ranked by students: 4.86/5.00*
2019 Winter	Computability II: Gödel's incompleteness theorems (Math 117b) *Ranked by students: 4.91/5.00*
2018 Fall	Groups and dynamics: a topics course (Math 191a) *Ranked by students: 5.00/5.00*
2018 Spring	Descriptive set theory (Math 116c) *Ranked by students: 4.91/5.00*
2018 Winter	Axiomatic set theory (Math 116b) *Ranked by students: 4.65/5.00*
2017 Fall	Mathematical Logic (Math 116a) *Ranked by students: 4.45/5.00*

University of Illinois at Urbana-Champaign.

2017 Spring	Instructor for the course **Ideas in Geometry** (Math 119). *On the list of teachers ranked as excellent by their students.*
2016 Spring	Instructor for a **Calculus II** class (Math 231). *On the list of teachers ranked as excellent by their students.*
2015 Fall	Teaching assistant for a **Calculus II (merit)** class (Math 231). *On the list of teachers ranked as excellent by their students.*
2014 Fall	Teaching assistant for a **Calculus I (merit)** class (Math 221). *On the list of teachers ranked as excellent by their students.*
2013 Fall	Teaching assistant for a **Calculus II (merit)** class (Math 231).

	On the list of teachers ranked as excellent by their students.
2012 Fall	Teaching assistant for two **Calculus II (merit)** classes (Math 231).

Mentoring

2019 Summer	*Allison Y. Wang*, undergraduate student, Department of Mathematics, California Institute of Technology. **Research project**: Infinite Ramsey theory and hyperfiniteness.
2019 Spring & **2019 Winter**	*Allison Y. Wang*, undergraduate student, Department of Mathematics, California Institute of Technology. **Reading course**: Borel determinacy and applications.
2018 Summer	*Luke Juusola*, undergraduate student, Department of Mathematics, California Institute of Technology. **Research project**: Projective Fraïssé theory and planar graphs.

Service

Community work

2016 Fall	Organized a Diversity Workshop for Teaching Assistants, Department of Mathematics, University of Illinois at Urbana-Champaign.
2013 Spring	Volunteer tutor at Danville correctional center, IL, USA Education Justice Project [EJP].

Seminar organizing

2018 Aug - 2020 Dec	*Postdoc Math Seminar*, California Institute of Technology.
2019 Spring	*Homotopy Type Theory Learning Seminar* [HoTTS], California Institute of Technology.

Outreach

2018 Nov 20	*The "limits" of Mathematics*, Seminars for Freshmen, California Institute of Technology.
2017 Nov 28	*Impossible constructions*, Seminars for Freshmen, California Institute of Technology.
2016 Mar 14	*Fractal Geometries and Codes*, π-day workshops, Department of Mathematics open house, University of Illinois at Urbana-Champaign.
2010 Sep - 2012 Jun	I offered approximately 150 mini workshops for high-school and junior high-school students on *Art & Mathematics* at the Herakleidon museum in Athens, Greece, on various topics: *Paradoxes and Illusions*; *Non-Euclidean geometries and Escher*; *Explorations of infinity in art and mathematics*; *Projective geometry and art in Renaissance*; *Music, harmony, and mathematics.*

Committees

2019 Jan - Present	Caltech Postdoctoral Association representative for mathematics California Institute of Technology.
2016 Aug - 2017 May	Graduate Affairs Committee, Department of Mathematics, University of Illinois at Urbana-Champaign.

Refereeing

- Fundamenta Mathematicae
- Mathematical Logic Quarterly
- Journal of Mathematical Logic