Pablo Andújar Guerrero

Academic Curriculum Vitae

PhD in mathematics

Education

2019 – 2021	**PhD degree in Mathematics**, *Purdue University*, West Lafayette, USA.
2019	**PhD degree in Mathematics**, *McMaster University*, Hamilton, Canada. *Moved to Purdue University before completion.*
2014–2015	**MASt degree in Mathematics**, *University of Cambridge*, Cambridge, UK. *Part III of the Mathematical Tripos.*
2010–2014	**BSc degree in Mathematics**, *Universitat de València*, Valencia, Spain.
2009–2014	**BA degree in Business Administration and Management**, *Universidad Politécnica de Valencia*, Valencia, Spain. *157 out of 327 ECTS taken, degree not obtained.*

Employment

2021 – 2022	**Postdoctoral Fellow**, *The Fields Institute for Research in Mathematical Sciences*, Toronto, Canada. Fellow of "Thematic Program on Trends in Pure and Applied Model Theory" and of "Thematic Program on Tame Geometry, Transseries and Applications to Analysis and Geometry".
2019 – 2021	**Teaching Assistant**, *Purdue University*, West Lafayette, USA. Teaching recitation and calculus lectures.
2019	**Teaching Assistant**, *McMaster University*, Hamilton, Canada. Grading.
May-Dec 2017; Jan-Jun 2016	**Wissenschaftliche Hilfskraft (Research Assistant)**, *Dr. Margaret Thomas*, Universität Konstanz, Konstanz, Germany. Working on a research project studying general topology and functional analysis in the setting of o-minimality.
2013-1014	**Placement in the Department of Algebra**, *Prof. Adolfo Ballester Bolinches*, Universitat de València, Valencia, Spain. Working on the theory of semigroups and automatas.

Teaching

Fall 2020	**Applied Calculus II**. Teaching my own two sections, grading quizzes, office hours.

Spring 2021; Spring 2020	**Plane Analytic Geometry And Calculus I**, *Purdue University*. Teaching recitation, grading quizzes, office hours.
Fall 2019	**Ordinary Differential Equations**, *Purdue University*. Grading homework.
Summer 2019	**Linear Algebra II**, *McMaster University*. Grading homework.

Publications / Research projects

2020   **Directed sets and topological spaces definable in o-minimal structures**, *P. Andújar Guerrero, M. Thomas, E. Walsberg*, Journal of the London Mathematical Society (2) 104 (2021) 989–1010, doi:10.1112/jlms.12446.
arXiv: https://arxiv.org/abs/1911.06409

2021   **Types, transversals and definable compactness in o-minimal structures**, *P. Andújar Guerrero*, Submitted.
arXiv: https://arxiv.org/abs/2111.03802

2022   **Definable $(\omega, 2)$ theorem for families with VC-codensity less than 2**, *P. Andújar Guerrero*.
In preparation.

2022   **Definable types in p-adically closed fields**, *P. Andújar Guerrero, W. Johnson*.
In preparation.

2022   **One-dimensional definable topological spaces in o-minimal structures**, *P. Andújar Guerrero, M. Thomas, E. Walsberg*.
In preparation.

2015   **Part III Essay**, *Universality Problems on Banach Spaces*, University of Cambridge, Cambridge, UK.
Supervised by Dr. András Zsák.

2013–2014   **BSc Final Year Project**, *The theorems of Weierstrass, Stone-Weierstrass and further generalizations*, Universitat de València, Valencia, Spain.
Supervised by Prof. Manuel Maestre Vera.

Talks

1 Apr 2022   **Invited talk at Fields Postdoc Colloquium**, *Fields Institute*, "A brief story of (p,q) theorems".

26 Mar 2022   **Invited talk at AMS Spring Central Sectional Meeting, Special Session on Model Theory and its Applications**, *Purdue University (online)*, "Definable compactness and types in o-minimality and beyond".

25 Jun 2021   **Invited talk at ASL North American Annual Meeting**, *South Bend (online)*, "Types, transversals and definable compactness in o-minimal structures".

21 Mar 2021   **Contributed talk at Graduate Student Conference in Logic (GSCL) XXII**, *University of Illinois at Urbana-Champaign (online)*, "Definable Compactness".

1 Feb 2021   **Invited talk at Model Theory and Applications Seminar**, *Purdue University (online)*, "Definable compactness and combinatorics in o-minimal theories".

9 Oct 2018	**Invited talk at Real Algebraic Geometry and Model Theory conference (RAGMT)**, *Universität Konstanz*, *"One-dimensional definable topologies in o-minimal structures"*.
10 Aug 2018	**Invited talk at Logic Seminar of the Department of Mathematics**, *University of Illinois Urbana-Champaign*, *Idem*.
4 Jun 2018	**Invited talk at Oberseminar mathematische Logik, Mengenlehre und Modelltheorie**, *Universität Konstanz*, *"Definable topological spaces in o-minimal structures"*.

Other Academic Activities

Jul 2018	**Participation in Donau–Rhein Modelltheorie und Anwendungen conference (DRMTA)**, *Universität Basel*, Basel, Switzerland.
Mar 2018	**Participation in Trimester on Model Theory, combinatorics and valued fields**, *Institut Henri Poincaré, Sorbonne Université*, Paris, France.
Jan 2018	**Participation in Research School Model Theory, Combinatorics and Valued Fields**, *CIRM*, Luminy, France. Including **presentation of poster "Directed sets and compactness in o-minimal structures".**
Jun 2017	**Participation in Thematic Program on Unlikely Intersections, Heights, and Efficient Congruencing**, *The Fields Institute*, Toronto, Canada. Including **Workshop on O-minimality and Diophantine Applications.**
Jul 2016	**Participation in Summer School in Tame Geometry**, *Universität Konstanz*, Konstanz, Germany.
May 2018	**Participation in Donau–Rhein Modelltheorie und Anwendungen conference (DRMTA)**, *Universität Konstanz*, Konstanz, Germany.
2012–2013	**Exchange Programme**, *Loughborough University*, Loughborough, UK. Financed by an ERASMUS grant.

Grants/Funding

Summer 2020	**Summer Research Grant**, *Department of Mathematics, Purdue University*, West Lafayette, USA. $3600
Oct 2018	**Grant to be a speaker at Conference on Real Algebraic Geometry and Model Theory (RAGMT)**, *Universität Konstanz*, Konstanz, Germany. 407 €.
Jul 2018	**Grant to participate in Donau–Rhein Modelltheorie und Anwendungen conference (DRMTA)**, *Universität Basel*, Basel, Switzerland. 173 €
Mar 2018	**Grant to participate in Trimester on Model Theory, combinatorics and valued fields**, *Institut Henri Poincaré, Sorbonne Université*, Paris, France. 900 €.

Jun 2017	**Grant to participate in Thematic Program on Unlikely Intersections, Heights, and Efficient Congruencing**, *The Fields Institute*, Toronto, Canada. 1343 €.
2010-2014	**Grant for Outstanding Qualifications**, *BSc degree in mathematics*, Universitat de València, obtained in 13 courses. Total 1500 €.
2012-2013	**ERASMUS**, *Loughborough University*, Loughborough, UK, European programme for education abroad. 2160 €.

Languages

Spanish	**Native Speaker**	
English	**Fluent (Proficient User C1)**	*Certificate - IELTS (Score: 8)*
German	**Basic User B1**	*Certificate - Universität Konstanz*
Catalan	**Independent User**	

References

References are available on request from

Prof. Margaret Thomas, *Department of Mathematics*, Purdue University, 150 N. University Street, West Lafayette, IN 47907-2067, USA.
Phone: +1 (765) 496-1904, Email: memthomas@purdue.edu

Prof. Sergei Starchenko, *Department of Mathematics*, University of Notre Dame, 255 Hurley Bldg, Notre Dame, IN 46556, USA.
Phone: +1 (574) 631-5402, Email: sstarche@nd.edu

Prof. Patrick Speissegger, *Department of Mathematics & Statistics*, McMaster University, 1280 Main St W, Hamilton, ON L8S 4L8, Canada.
Phone: +1 (905) 525-9140, Email: speisseg@math.mcmaster.ca

Prof. Saugata Basu, *Department of Mathematics*, Purdue University, 150 N. University Street, West Lafayette, IN 47907-2067, USA.
Phone: +1 (765) 494-8798, Email: sbasu@math.purdue.edu

Prof. Manuel Maestre Vera, *Departamento análisis matemático*, Universitat de Valencia, Carrer del Dr. Moliner, 46100 Burjassot, València, Spain.
Phone: +34 96-354-3903, Email: manuel.maestre@uv.es