

David José Fernández Bretón
Escuela Superior de Física y Matemáticas (ESFM)
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Mexico
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Research interests

Mathematical Logic, Set Theory and Foundations of Mathematics

Qualifications

PhD, PhD in Mathematics and Statistics, York University Toronto
1 Sep 2010 → 31 Jan 2015
Award Date: 15 Jun 2015

Master, Masters Degree in Mathematical Sciences, Universidad Nacional Autónoma de Mexico
1 Aug 2008 → 13 Aug 2010
Award Date: 13 Aug 2010

Bachelor, Bachelor's Degree in Physics and Mathematics, Escuela Superior de Física y Matemáticas-Instituto Politécnico Nacional
1 Aug 2003 → 31 Jul 2007
Award Date: 29 May 2008

Employment

Escuela Superior de Física y Matemáticas (ESFM)
Mexico
1 Oct 2020 → present

Postdoctoral Fellow

Universidad Nacional Autónoma de Mexico
Mexico
1 Sep 2019 → 31 Aug 2021

Postdoctoral Fellow

Centro de Investigación y de Estudios Avanzados del Instituto Politécnico Nacional
07000, México, D.F., Mexico
15 Feb 2019 → 31 Aug 2019

Adjunct Professor

Instituto Tecnológico y de Estudios Superiores de Monterrey
Mexico
1 Jan 2019 → 31 Dec 2019

Postdoctoral Fellow

Kurt Gödel Center for Research in Mathematical Logic, University of Vienna
Austria
1 Sep 2018 → 31 Oct 2018

Postdoctoral Assistant Professor

University of Michigan, Ann Arbor
United States
1 Sep 2015 → 31 Jul 2018

Research outputs

Hindman's theorem in the hierarchy of choice principles

Fernández-Bretón, D., 2023, (Accepted/In press) In: Journal of Mathematical Logic. 2350002.

Ends of non-metrizable manifolds: A generalized bagpipe theorem

Fernández-Bretón, D. & Vlamis, N. G., 1 Apr 2022, In: Topology and its Applications. 310, 108017.

Using Ultrafilters to Prove Ramsey-type Theorems

Fernández-Bretón, D. J., 2022, In: American Mathematical Monthly. 129, 2, p. 116-131 16 p.

Finiteness classes arising from Ramsey-theoretic statements in set theory without choice

Brot, J., Cao, M. & Fernández-Bretón, D., Jun 2021, In: Annals of Pure and Applied Logic. 172, 6, 102961.

Equicontinuous mappings on finite trees

Acosta, G. & Fernández-Bretón, D., 2021, In: Fundamenta Mathematicae. 254, 2, p. 215-240 26 p.

Hindman-like theorems with uncountably many colours and finite monochromatic sets

Fernández-Bretón, D. & Lee, S. H., Jul 2020, In: Proceedings of the American Mathematical Society. 148, 7, p. 3099-3112 14 p.

Stable Ordered Union Ultrafilters and $\text{cov}(M) < c$

Fernández-Bretón, D. J., 1 Sep 2019, In: Journal of Symbolic Logic. 84, 3, p. 1176-1193 18 p.

A characterization of the Boolean Prime Ideal theorem in terms of forcing notions

Fernández-Bretón, D. & Lauri, E., 2019, In: Fundamenta Mathematicae. 245, 1, p. 25-38 14 p.

Hindman's Theorem is only a Countable Phenomenon

Fernández-Bretón, D. J., 1 Mar 2018, In: Order. 35, 1, p. 83-91 9 p.

A parametrized diamond principle and union ultrafilters

Fernández-Bretón, D. & Hrušák, M., 2018, In: Colloquium Mathematicum. 153, 2, p. 261-272 12 p.

Strong failures of higher analogs of Hindman's theorem

Fernández-Bretón, D. & Rinot, A., Dec 2017, In: Transactions of the American Mathematical Society. 369, 12, p. 8939-8966 28 p.

Corrigendum to "Gruff ultrafilters" (Topology and its Applications (2016) 210 (355–365) (S0166864116301869) (10.1016/j.topol.2016.08.012))

Fernández-Bretón, D. & Hrušák, M., 1 Nov 2017, In: Topology and its Applications. 231, p. 430-431 2 p.

Gruff ultrafilters

Fernández-Bretón, D. J. & Hrušák, M., 1 Sep 2016, In: Topology and its Applications. 210, p. 355-365 11 p.

Strongly productive ultrafilters on semigroups

Bretón, D. J. F. & Lupini, M., 1 Feb 2016, In: Semigroup Forum. 92, 1, p. 242-257 16 p.

Strongly summable ultrafilters, union ultrafilters, and the trivial sums property

Fernández Bretón, D. J., Feb 2016, In: Canadian Journal of Mathematics. 68, 1, p. 44-66 23 p.

Every strongly summable ultrafilter on $\oplus \mathbb{Z}_2$ is sparse

Bretón, D. J. F., 23 Mar 2013, In: New York Journal of Mathematics. 19, p. 117-129 13 p.