

Verónica Becher

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Address

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Degrees

Licenciatura en Ciencias de la Computación, Universidad de Buenos Aires (UBA), 1990.

MSc.in Computer Science, University of British Columbia, Vancouver, Canada, 1993.

PhD. in Computer Science, UBA, 1999.

Current positions

Full Professor, Facultad de Ciencias Exactas y Naturales (FCEyN), UBA since 2017

Principal Researcher Consejo Nacional Investigaciones Científicas y Técnicas (CONICET), since 2017

Member Laboratoire International Associé INFINIS, Université Paris Diderot-CNRS/UBA-CONICET

Main international scientific responsibilities

- Editor of the Journal of Symbolic Logic (Association of Symbolic Logic), since 2018
- Associate Editor of Journal of Logic, Language and Information (Kluwer/Springer), 2005-2009
- Council Member of the Association of Symbolic Logic, 2008-2010; Executive Committee 2014-2017
- Council Member of the Division of Logic, Methodology and Philosophy of Science and Technology (DLMPS) of the International Union of History and Philosophy of Science 2016-2019.
- Committee ECOS Argentina-France, responsible for the exact sciences, 2010-2012
- Steering Committee Computability Complexity and Randomness (CCR) since 2004

Main Argentine scientific responsibilities

- Consejera Académica Titular, FCEyN, UBA, 2018-2020
- Directora Adjunta del Departamento Computación FCEyN, UBA, October 2014-2016
- Consejera Académica Suplente CELFI-Datos (Centro Latinoamericano Formación Interdisciplinaria), 2015-
- Vocal Titular del Consejo de Administración, Fundación Sadosky, 2016- ongoing
- Miembro Comisión CONICET Informática 2007- 2008; Becas 2015-2016
- Miembro Comisión Ad-Hoc FCEyN, 2011-2013 (titular), 2010 (suplente)
- Comisión Técnica Asesora UBA, Ciencias Físicas, Químicas y Matemáticas (CTA1) 2003, 2004. Ciencias Básicas y Biológicas (CTA4) 2005-2006, 2010-2012.
- Asesoramiento para Ministerio de Ciencia Tecnología e Innovación Productiva, July 2008 to July 2009

Visiting researcher

- Institut de Recherche en Informatique Fondamentale, Université Paris Diderot & CNRS, regularly since 2002
- Erwin Schrödinger International Institute for Mathematics and Physics (ESI), University of Vienna, November 11 to December 17, 2016.
- Institute for Mathematical Sciences, National University of Singapore, June 2014.
- Institut de Recherche Mathématique Avancée, Université de Strasbourg, July 2013; June 2017.
- Isaac Newton Institute for Mathematical Sciences, Cambridge UK, June 2012.
- Chercheuse étranger de la Mairie de Paris en qualité de senior CNRS, Université Paris 7, November 2008 to February 2009.
- Dept. Mathematics and Computer Science University of Victoria, Wellington, New Zealand, November 2004.
- Department of Logic and Philosophy of Language, Universidad de Sevilla, España, January 2002.
- Researcher IBM Thomas Watson Research Center, New York, USA, December 1999 and December 2000.

Current research grants

- ECOS PA17C04 "Randomness and finite-state machines" Directors: Verónica Becher (Universidad de Buenos Aires) , Olivier Carton (Université Paris Diderot), 2018-2020.
- PICT-2014-3260 "Algoritmos, Azar y Complejidad Intrínseca " Director : Verónica Becher, 2016-2018.

Selected publications since 2013

Area: Theoretical Computer Science; randomness, normal numbers, combinatorial problems on words.
Erdos number 3.

1. V. Becher and O. Carton, Chapter "Normal numbers and Computer Science". *Sequences, Groups, and Number Theory*, Valérie Berthé and Michel Rigó editors. Trends in Mathematics Series, Birkhauser / Springer, 2018.
2. V. Becher and S. Yuhjtman. On absolutely normal and continued fraction normal numbers, *International Mathematics Research Notices* rnx297, 2018.
3. V. Becher, J. Reimann and T. Slaman. Irrationality Exponent, Hausdorff Dimension and Effectivization, *Monatshefte für Mathematik*, 185(2):167–188, 2018.
4. V. Becher, O. Carton and P.A. Heiber. Finite-state independence, *Theory of Computing Systems*, in press, 2018.
5. C. Aistleitner, V. Becher, A.-M. Scheerer and T. Slaman. On the construction of absolutely normal numbers, *Acta Arithmetica* 180(4): 333–346, 2017.
6. N. Alvarez and V. Becher. M. Levin's construction of absolutely normal numbers with very low discrepancy, *Mathematics of Computation* 86(308): 2927-2946, 2017.
7. N. Alvarez, V. Becher, P. Ferrari and S. Yuhjtman. Perfect necklaces, *Advances of Applied Mathematics* 80:48–61, 2016.
8. V. Becher, Y. Bugeaud and T. Slaman. On simply normal numbers to different bases, *Mathematische Annalen*, 364(1): 125-150, 2016.
9. V. Becher, Y. Bugeaud and T. Slaman. The irrationality exponents of computable numbers, *Proceedings of American Mathematical Society* 144:1509–1521, 2016.
10. P. Turjanski, G.Parra, R. Espada, V. Becher and D. Ferreira. "Protein repeats from first principles", *Scientific Reports* 6, Article number: 23959, 2016
11. V. Becher, P. Heiber and T. Slaman. A computable absolutely normal Liouville number, *Mathematics of Computation* 84(296): 2939–2952, 2015.
12. V. Becher, O. Carton and P. Heiber. Normality and automata, *Journal of Computer and System Sciences* 81(8): 1592–1613, 2015.
13. V. Becher and S. Grigorieff. Borel and Hausdorff hierarchies in topological spaces of Choquet games and their effectivization, *Mathematical Structures in Computer Science* 25(7): 1490-1519, 2015.
14. V. Becher and S. Grigorieff. Wadge hardness in Scott spaces and its effectivization, *Mathematical Structures in Computer Science* 25(7): 1520-1545, 2015.
15. V. Becher and T. Slaman. On the normality of numbers to different bases, *Journal of the London Mathematical Society* 90 (2): 472–494, 2014.
16. V. Becher, P. Heiber and T. Slaman. Normal numbers and the Borel hierarchy, *Fundamenta Mathematicae* 226: 63-77, 2014.
17. V. Becher, P. Heiber and T. Slaman. A polynomial-time algorithm for computing absolutely normal numbers, *Information and Computation* 232: 1–9, 2013.
18. V. Becher and P. Heiber. Normal numbers and finite automata, *Theoretical Computer Science* 477: 109–116, 2013 .
19. V. Becher. Turing's note on normal numbers" pages 408-411 in *Alan Turing - His Work and Impact*, editors S Barry Cooper and Jan van Leeuwen, Elsevier, 2013.

Research supervision

Directed 5 Postdocs, 5 PhD thesis, more than 20 Master Science thesis. Currently 3 new ongoing supervisions.

Other

Plenary speaker in CiE 2012, SLALM 2014, ASL 2014, CLMPS 2015, LC 2017.