


CURRICULUM VITAE

Bărboianu Doru Cătălin, BSc, MSc, PhD

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EDUCATION AND DEGREES

- PhD (awarded with the highest distinction), University of Bucharest, Department of Philosophy
- Philosophy of Science, December 2017, with a doctoral thesis in the field of epistemology of mathematical modeling and the philosophical problems of the applicability of mathematics in sciences. The title of the doctoral thesis is *The Structural Alternatives and Metatheoretical Aspects of the Resolving of the Problem of Applicability of Mathematics in Sciences*, under the coordination of Professor Ilie Pârvu.
- MSc in Probability & Mathematical Statistics, from University of Bucharest, Mathematics Department, September 1992 (pre-Bologna equivalent).
- BSc in Pure Mathematics, from University of Bucharest, Mathematics Department, with emphasis on Probability & Mathematical Statistics, University of Bucharest, attended between 1987 – 1991;
- "Frații Buzești" High School, Mathematics & Physics profile, Craiova, attended between 1982 – 1986.

PROFESSIONAL EXPERIENCE AT LARGE

- Independent researcher in Applied Mathematics, Cognitive Psychology (Education, Problem Gambling) and Philosophy of Science, 2004 – to present.
- Editor-in-chief of the website <http://probability.infarom.ro>, dedicated to probability theory and its applications, 2006 – 2016.
- Scientific consultant for local organizations, 2016 – 2017.
- Consultant on the mathematical aspects of the games for various gaming companies and individuals, on a freelance basis, 2004 – 2013.
- Leader of a private research group in Applied Mathematics, reviewer and editor at Infarom Publishing Company, Division of Applied Mathematics, 2004 – to present.
- Mathematics instructor at secondary schools in Bucharest and Craiova between 1991 - 1996.

MEMBERSHIPS

MAA (*Mathematical Association of America*), 2007 – 2012.

SIAM (*Society for Industrial and Applied Mathematics*), 2005 – to present.

BSPS (*British Society for the Philosophy of Science*), 2010 – 2016.

RASG (*Romanian Association for the Study of Gambling*), 2013 – to present

SRFA (*Romanian Society of Analytical Philosophy*), 2017 – to present

FIELDS OF RESEARCH INTEREST

Mathematics

Applied Mathematics – Probability & Statistics – Gaming mathematics

Probability & Statistics – Interpretations of probability

Mathematical Modeling

Topology

Philosophy

Epistemology

Philosophy of mathematics – Applicability of Mathematics, Epistemology of Mathematics,

Foundations of Mathematics

Philosophy of language – Formal semantics, Wittgenstein, Language and thought

Philosophy of mind

History of Science

Philosophy of Education

Cognitive Psychology

Problem Gambling

Psychology of education

Education

Communication of science to the general public. The adequate conceptual framework and methodology for the scientific and mathematical education provided to young students and general public.

My orientation is interdisciplinary and I strongly believe in interdisciplinarity as a methodological necessity of the approach of the sensible and/or unsolved issues of the research, especially in analytical philosophy.

PUBLICATIONS

Books (published in English, Spanish, and Romanian):

Philosophy of Applicability of Mathematics: Between Unreasonable and Reasonable (2018), Romanian Edition, ISBN 9789731991900

The Constitutive Role of Mathematics in Structural Science (2017), Romanian edition, ISBN 9789731991177

The Mathematics of Slots: Configurations, Combinations, Probabilities (2013), ISBN 9789731991405

Texas Hold'em Odds for Your Strategy, with Probability-Based Hand Analyses (2011), ISBN 9789731991344

The Mathematics of Lottery: Odds, Combinations, Systems (2009), ISBN 9789731991115
Mathematics Problems with Separate Progressive Solutions: Hints, Algorithms, Proofs. Volume 1 - Intermediate and College Algebra (2008) (co-author), ISBN 9789738866294
Roulette Odds and Profits: The Mathematics of Complex Bets (2007), ISBN 9789738752078
Draw Poker Odds: The Mathematics of Classical Poker (2007), ISBN 9789738752054
Probability Guide to Gambling: The Mathematics of Dice, Slots, Roulette, Baccarat, Blackjack, Poker, Lottery, and Sport Bets (2006), ISBN 9789738752030
Understanding and Calculating the Odds: Probability Theory Basics and Calculus Guide for Beginners, with Applications in Games of Chance and Everyday Life (2006), ISBN 9789738752016
Texas Hold'em Odds (2004), ISBN 9730036896

Peer-reviewed articles:

- 2019. The Epistemology of the Near Miss and Its Potential Contribution in the Prevention and Treatment of Problem-Gambling, *Journal of Gambling Studies*, 1-16. DOI: 10.1007/s10899-018-09820-1.
- 2018. The Nature of the Structures of Applied Mathematics and the Metatheoretical Justification for the Mathematical Modeling. *Romanian Journal of Analytic Philosophy*, in press.
- 2018. Wigner's Puzzle on Applicability of Mathematics: On what Table to Assemble It?, *European Journal for Philosophy of Science*, under review.
- 2016. The Current Epistemic Status of the Indispensability Arguments in the Philosophy of Science. *Analele Universității din Craiova – Seria Filosofie*, 36(2): 108-132.
- 2015. Mathematical Models of Games of Chance: Epistemological Taxonomy and Potential in Problem-Gambling Research. *UNLV Gaming Research & Review Journal*, 19(1).
- 2015. The “Unreasonable” Effectiveness of Mathematics: The Foundational Approach of Theoretical Alternatives. *Revista de Filosofie*, 62(1): 58-71
- 2014. Circularities in the Contemporary Philosophical Accounts of the Applicability of Mathematics in the Physical Universe. *Revista de Filosofie*, 61(5): 517-542.
- 2014. Is the secrecy of the parametric configuration of slot machines rationally justified? The exposure of the mathematical facts of games of chance as an ethical obligation. *Journal of Gambling Issues*, Vol.29: 1-23.
- 2013. Mathematician's call for interdisciplinary research effort. *International Gambling Studies*, 13(3): 430-433.
- 2013. The mathematical facts of games of chance between exposure, teaching, and contribution to cognitive therapies: principles of an optimal mathematical intervention for responsible gambling. *Romanian Journal of Experimental Applied Psychology*, 4(3): 25-40.
- 2011. Problem 11589: Where are the zeros? *The American Mathematical Monthly*, 118(7): 653.
- 2008. Problem 11402: Square on a Graph. *The American Mathematical Monthly*. 115(10): 949.
- Various proposed mathematics problems in *Gazeta Matematică*, between 1983 – 1993.

Non-peer reviewed publications (science/technical periodicals and websites):

- Applied mathematicians in the service of pressing global issues. *Euroscientist*, November 2018. <https://www.euroscientist.com/applied-mathematics>
- Revealing slots secrets: Generating a PAR sheet through statistical methods. *Slot tech*, May 2013: 4-10. <http://slot-tech.com/members/magazine/lores/May13.pdf>
- The probabilities of gaming. *The European Casinos - The Elite*, March 2012: 58-60. <http://www.casinoselite.com/media/revistas/pdf/29EuropeanCasinosFullWeb.zip>
- The Strength Matrix of a Hold'em Hand. *The Hendon Mob*, February 2012.

http://www.thehendonmob.com/catalin_barboianu/poker_hand_strength_matrix#

- The effective evaluation of Texas Hold'em Hands: The power matrix of a hand. *Casino Inside*, no. 21/2012.
- Martingale odds of failure in the long run. *Casino Inside*, no. 22/2012.
- Returning the odds: Partial simulations versus compact formulas. *Probability Theory Guide and Applications*, 2007. http://probability.infarom.ro/returning_the_odds.html