Leonardo Kawakami Pacheco

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Born: October 19, 1994

Current Position

2023–	TU Wien Project Assistant

Education

2020–2023	PhD in Mathematics at Tohoku University Thesis: Exploring the difference hierarchies on μ-calculus and arithmetic — from the point of view of Gale–Stewart games Advisor: Keita Yokoyama
2018–2020	Master in Mathematics at Tohoku University Thesis: On the weak hierarchy of μ-calculus Advisor: Kazuyuki Tanaka
2014–2017	Undergraduate in Mathematics at Universidade Federal de Goiás, Brazil
2012–2013	Undergraduate in Computer Science (incomplete) at Universidade Federal de Goiás, Brazil

Complementary Education

2019	IMS Graduate Summer School in Logic at NUS, Singapore
2016	IMS Graduate Summer School in Logic at NUS, Singapore

Awards

2023	Kawai Doctoral Thesis Award from Tohoku University

Teaching

2021	Teaching Assistant — 数学基礎論特論 (Mathematical Logic — Graduate)
2021	Teaching Assistant — 計算機数学 A (Computability A)
2022	Teaching Assistant — 計算機数学 B (Computability B)

Publications

L. Pacheco, W. Li, K. Tanaka, *On one-variable fragments of modal μ-calculus*, Proceedings of CTFM 2019, World Scientific Publications (2022), 17–45.

L. Pacheco, K. Tanaka, *On the degrees of ignorance: via epistemic logic and mu-calculus*, Proceedings of SOCREAL 2022: 6th International Workshop on Philosophy and Logic of Social Reality (2022), 74–78.

L. Pacheco, K. Tanaka, *The alternation hierarchy of the mu-calculus over weakly transitive frames* , Proceedings of WoLLIC 2022 –28th Workshop on Logic, Language, Information and Computation, Lecture Notes in Computer Science, vol 12468, 207–220.

L. Pacheco, *Recent Results on Reflection Principles in Second-Order Arithmetic*, RIMS Kôkyûroku No.2228, 73–77.

L. Pacheco, K. Yokoyama, *Determinacy and reflection principles in second-order arithmetic*, preprint, arXiv:2209.04082.

Talks

2023	*Fixed-points in epistemic logic* at MSJ Spring Meeting 2023.
2022	*The μ-calculus collapses to modal logic over frames of* IS5 at Proof Theory Symposium 2022.
2022	*The alternation hierarchy of the μ-calculus over weakly transitive frames* at 28th Workshop on Logic, Language, Information and Computation.
2022	*Determinacy and reflection principles in second-order arithmetic* at Workshop on Reverse Mathematics and its Philosophy, joint presentation with Keita Yokoyama.
2022	*Determinacy and reflection principles in second-order arithmetic* at The second Japan-Russia workshop on effective descriptive set theory, computable analysis and automata.
2022	*On the degrees of ignorance: via epistemic logic and μ-Calculus* at SOCREAL 2022.

2021   *Sequences of β_k-models and reflection in second-order arithmetic* at Theory and Applications of Proof and Computation — RIMS 共同研究（公開系）.

2021   *On the μ-calculus between* S4 *and* S5 at 1º Enc(ue-o)ntro de Logica Brasil-Col(o-ô)mbia.

2021   *Modal semantics for epistemic logic* at 数学基礎論若手の会 2021.

2020   *μ-calculus and Wadge Degrees* at Proof Theory Workshop 2020.