

# JAKUB SZYMANIK

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- CONTACT      Institute of Artificial Intelligence  
University of Groningen  
  
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- RESEARCH      Primary: logic and cognitive science, mathematical linguistics, formal semantics  
INTERESTS      Secondary: formal epistemology, artificial intelligence, philosophy of language
- EMPLOYMENT      Postdoc at the Institute of Artificial Intelligence University of Groningen      **2011-**  
HISTORY  
Postdoc at the Department of Philosophy Stockholm University      **2010**  
Docent at the Philosophy Department Utrecht University      **2009**  
Scientific consulting at SpeechConcept      **2009**
- EDUCATION      **Universiteit van Amsterdam**, The Netherlands      **2006-2009**  
  
Ph.D., Institute for Logic, Language and Computation  
Title: Quantifiers in TIME and SPACE.  
Computational Complexity of Generalized Quantifiers in Natural Language  
Advisors: Johan van Benthem, Marcin Mostowski, Theo Janssen  
Committee: Robin Clark, Paul Dekker, Jouko Väänänen, Dag Westerståhl
- Warsaw University**, Poland      **1999-2005**  
  
Master of Arts in Philosophy, Individual Studies in the Humanities
- AWARDS  
& GRANTS      Swedish Research Council Postdoctoral Grant, *A Computational-Empirical Approach to Language Comprehension*, 1,404,000 SEK (~155,000 EUR), 2009.  
  
“Polityka” Prize for Best Polish Young Researchers, 2009  
  
Foundation for Polish Science Award for Young Researchers, 2007, 2008  
  
Marie Curie Research Fellowship in the GLoRiClass Project, 2006  
  
Collegium Invisible Fellowship, 2001  
  
Ministry of Education Scholarship for Academic Excellence, 2000-05  
  
Ministry of Education Award for High-School Students, 1999  
  
Finalist in the International Philosophical Olympiad in Budapest, 1999  
  
2nd place in the Polish Philosophical Olympiad in Warsaw, 1999

## TEACHING

- Generalized Quantifier Theory Meets Cognition (10h), ESSLLI 2011, Ljubljana.
- Capita Selecta AI and Cognitive Science: Game Theory (10 ECTS) (with S. Ghosh, R. Verbrugge), University of Groningen, 2011
- Quantifiers & Cognition (10h), Stockholm University, 2010
- Introduction to Modal Logic (6 ECTS), Utrecht University, 2009
- Master of Logic project ‘Interacting Agents Processing Information’(10 ECTS) (with C. Dégremont, L. Kurzen, N. Gierasimczuk) University of Amsterdam, 2009
- Structures for Semantics (10 ECTS) (with R. van Rooij), University of Amsterdam, 2008
- Teaching assistant for the Second Course in Logic (30h), University of Warsaw, 2006
- Introduction to Computational Complexity (30h), Collegium Invisibile, 2006
- Introduction to Mathematical Linguistics (30h), Collegium Invisibile, 2003
- Introduction to the Philosophy of Language (60h), Collegium Invisibile, 2002

ACADEMIC  
ACTIVITIES

*Recent Organizational Activities:* ESSLLI 2012 Logic & Cognition Workshop, Opole, 2012; Grolog seminar, Groningen, 2011–; Reading Group on Social Cognition, Groningen 2011– ; Formal Semantics Meets Computation and Cognition, Amsterdam, 2009; Logic and Cognition Seminar, Amsterdam, 2007–2009; Paris Amsterdam Logic Meeting of Young Researchers, 2007–2008; Fifty Years of Generalized Quantifiers, Warsaw, 2007; Szklarska Poręba Workshops on the Roots of Pragmasemantics, 2006–2009; GloRiClass Seminar, Amsterdam, 2006–2009; Warsaw CogSci Forum, 2005–2008; Warsaw Group Logical Workshops, 2002–2007;

*Reviewing:* Lecture Notes on Artificial Intelligence; Neuropsychologia; Proceedings of Syntax and Semantics of Spatial P; Information and Computation; Linguistics and Philosophy; Annual Conference of the Cognitive Science Society; Journal of Logic, Language and Information; Conference on Theoretical Aspects of Rationality and Knowledge; ESSLLI Student Session PC-member; Dialogue & Discourse; Synthese; Workshop ‘Reasoning about other minds’; Logic & Cognition 2012 PC-member, A book proposal for MIT Press.

*Editorial job:* Editorial assistant for Handbook of Logic and Language (2nd edition); Co-editor of webportal Filozofia.pl; co-editor of webportal Logic and Rational Interaction.

JOURNAL  
PAPERS

1. M. Mostowski & J. Szymanik. Semantic bounds for everyday language. *Semiotica*, Vol. 188, Iss. 1-4, pp. 363-372.
2. M. Zajenkowski, R. Styła, and J. Szymanik. A computational approach to quantifiers as an explanation for some language impairments in schizophrenia, *Journal of Communication Disorder*, Vol. 44, 2011, pp. 595-600.
3. J. Szymanik & M. Zajenkowski. Contribution of working memory in the parity and proportional judgments, *Belgian Journal of Linguistics*, Vol. 25, 2011, pp. 189-206.

4. I. van Rooij, J. Kwisthout, M. Blokpoel, J. Szymanik, T. Wareham, and I. Toni. Communicating intentions: Computationally easy or difficult?, *Frontiers in Human Neuroscience*, Vol. 5, 2011, pp. 1–18.
5. J. Szymanik. Computational complexity of polyadic lifts of generalized quantifiers in natural language, *Linguistics & Philosophy*, 33 (3), 2010, pp. 215-250.
6. A. Isaac & J. Szymanik. Logic in cognitive science: Bridging the gap between symbolic and connectionist paradigms, *Journal of the Indian Council of Philosophical Research*, XXVII (2), 2010, pp. 279-309. Also reprinted in: *A New Survey of Active Directions in Modern Logic. Logic and Philosophy Today*, A. Gupta, J. van Benthem (Eds.), Studies in Logic, Volume 30, College Publications, London, 2011, pp. 275-300.
7. J. Szymanik & M. Zajenkowski. Comprehension of simple quantifiers. Empirical evaluation of a computational model, *Cognitive Science: A Multidisciplinary Journal*, 34 (3), 2010, pp. 521-532.
8. N. Gierasimczuk & J. Szymanik. Branching quantification vs. two-way quantification, *Journal of Semantics*, 26 (4), 2009, pp. 329–366.
9. J. Szymanik & M. Zajenkowski. Improving methodology of quantifier comprehension experiments, *Neuropsychologia*, 47 (12), 2009, pp. 2682–2683.
10. J. Kontinen & J. Szymanik. A remark on collective quantification, *Journal of Logic, Language and Information*, 17 (2), 2008, pp. 131-140.
11. J. Szymanik. A note on some neuroimaging study of natural language quantifiers comprehension, *Neuropsychologia*, 45 (9), 2007, pp. 2158-2160.
12. M. Mostowski & J. Szymanik. Computational complexity of some Ramsey quantifiers in finite models, *The Bulletin of Symbolic Logic*, 13, 2007, pp. 281-282.
13. N. Gierasimczuk & J. Szymanik. Hintikka’s thesis revisited, *The Bulletin of Symbolic Logic*, 13 (2007), p. 273.
14. J. Szymanik. Semantyka obliczeniowa dla kwantyfikatorów monadycznych w języku naturalnym, *Studia Semiotyczne*, 26, 2007, pp. 219-244.
15. T. Ciecierski & J. Szymanik. O hipotezie Bar-Hillela, *Studia Semiotyczne*, 25, 2004, pp. 201-212.
16. J. Szymanik. Problemy z formą logiczną, *Studia Semiotyczne* 25, 2004, pp. 187-200.
17. N. Gierasimczuk & J. Szymanik. Invariance properties of quantifiers and multiagent information exchange, *Proceedings of the 12th Meeting on Mathematics of Language*, M. Kanazawa, A. Kornai, M. Kracht and H. Seki (Eds.), Lecture Notes in Artificial Intelligence 6878, Springer, Berlin, 2011, pp. 72-89.
18. C. Dégremont, L. Kurzen and J. Szymanik. On the tractability of comparing informational structures, *Proceedings of the Workshop ‘Reasoning about other minds: Logical and cognitive perspectives’*, J. van Eijck, R. Verbrugge (Eds.) CEUR 751, 2011, pp. 50-64.

PROCEEDING  
PAPERS

19. N. Gierasimczuk & J. Szymanik. A Note on a generalization of the muddy children puzzle, *Proceedings of the 13th Conference on Theoretical Aspects of Rationality and Knowledge*, K. Apt (Ed.), ACM Digital Library, pp. 257-264.
20. J. Kontinen & J. Szymanik. Characterizing definability of second-order generalized quantifiers, *Proceedings of the 18th Workshop on Logic, Language, Information and Computation*, L. Beklemishev and R. De Queiroz (Eds.), Lecture Notes in Artificial Intelligence 6642, Springer, Berlin, 2011, pp. 187-200.
21. O. Bott, F. Schlotterbeck, and J. Szymanik. Interpreting tractable versus intractable reciprocal sentences, *Proceedings of the International Conference on Computational Semantics*, J. Bos and S. Pulman (Eds.), SIGSEM, Oxford, 2011, pp. 75-83.
22. J. Szymanik & M. Zajenkowski. Quantifiers and working memory, *Proceedings of the 17th Amsterdam Colloquium*, M. Aloni and K. Schulz (Eds.), Lecture Notes in Artificial Intelligence 6042, 2010, Springer, Berlin, pp. 456-464.
23. J. Szymanik. Almost all complex quantifiers are simple, *Proceedings of the Mathematics of Language 2009*, C. Ebert, G. Jäger, M. Kracht, J. Michaelis (Eds.), Springer, Berlin, Lecture Notes in Computer Science 6149, 2010, pp. 272-280.
24. J. Szymanik & M. Zajenkowski. Understanding quantifiers in language, *Proceedings of the 31st Annual Conference of the Cognitive Science Society*, N. A. Taatgen and H. van Rijn (Eds.), 2009, pp. 1109-1115.
25. J. Szymanik. The computational complexity of quantified reciprocals, *Proceedings of the 7th International Tbilisi Symposium on Logic, Language, and Computation*, P. Bosh, D. Gabelaia, J. Lang (Eds.)n Lecture Notes in Artificial Intelligence 5422, Springer, Berlin, 2009, pp. 139-152.
26. J. Szymanik. Strong meaning hypothesis from a computational perspective, *Proceedings of the 16th Amsterdam Colloquium*, M. Aloni, P. Dekker, F. Roelofsen (Eds.), 2007, Amsterdam, pp. 211-216.

ARTICLES IN  
BOOKS

27. Isaac & Szymanik. Logic and complexity in cognitive science, submitted.

THESIS

Jakub Szymanik. *Quantifiers in TIME and SPACE. Computational Complexity of Generalized Quantifiers in Natural Language*. PhD thesis, University of Amsterdam, 2009.

EDITED

*Kognitywistyka*. (with M. Zajenkowski), MISH, Warsaw, 2004.

*Filozofia i nauki szczegółowe*. (with: T. Ciecierski, L. Nijakowski), MISH, Warsaw, 2002.

INVITED  
CONFERENCE  
TALKS

Generalizing Muddy Children Puzzle, *Dagstuhl Seminar Computer Science & Problem Solving: New Foundations*, Dagstuhl 2011.

Logic & Cognition, *'Entia et Nomina'*, Gdańsk 2011.

Quantifier Verification. Between Computational and Algorithmic Level, *3rd Workshop on Semantic Processing, Logic and Cognition*, Tübingen 2011.

Logic & Cognition. The new psychologism in logic, *7th Conference on Argumentation 'Cognition and Argument: An Insight into Real-Life Practice'*, Warsaw 2011.

Logic and Cognition, *Logic and Philosophy Today*, Delhi 2011.

Complexity, meaning, and quantifiers, *Workshop on Vague Quantities and Vague Quantifiers*, Berlin 2010.

Muddy Children Playground, *Logic, Rationality and Intelligent Interaction*, ESSLLI workshop, Copenhagen 2010.

Generalized Quantifiers. From Logic to Cognitive Science, *Szklarska Poręba Workshop* 2010.

Comprehension of Simple Quantifiers. Empirical Evaluation of a Computational Model, *2nd Workshop on Semantic Processing, Logic and Cognition*, Tübingen 2009.

Are there Independent Combinations of Quantifiers in Natural Language?, *Paris-Amsterdam Meeting of Young Researchers 7*, Paris 2008.

Computational Dichotomy between Reciprocals, *Games in Logic, Language and Computation 14 $\frac{1}{2}$* , Amsterdam 2007.

Complexity of Quantifier Meaning, *Paris-Amsterdam Meeting of Young Researchers 5*, Paris 2007.

CONFERENCE  
TALKS

Invariance Properties of Quantifiers & Multi-agent Information Exchange, *12th Mathematics of Language*, Nara 2011.

A Generalization of the Muddy Children Puzzle, *13th Conference on Theoretical Aspects of Rationality and Knowledge*, Groningen 2011.

Characterizing Definability of Second-Order Generalized Quantifiers, *18th Workshop on Logic, Language, Information and Computation*, Philadelphia 2011.

Monotonicity in Quantifier Verification, *Sinn und Bedeutung 15*, Saarbrücken 2010.

Working Memory and Quantifiers, *Utterance Interpretation and Cognitive Models III*, Brussels 2010.

Quantifiers & Working Memory, *Amsterdam Colloquium*, 2009.

Almost All Complex Quantifiers are Simple, *11th Meeting on Mathematics of Language*, Bielefeld 2009.

Understanding Quantifiers in Language, *The Annual Meeting of the Cognitive Science Society*, Amsterdam 2009.

How Complex is Language?, *Szklarska Poręba Workshop*, 2009.

A Remark on Collective Quantification, *Szklarska Poręba Workshop*, 2008.

Computational Complexity and the Strong Meaning Hypothesis, *7th International Symposium on Language, Logic and Computation*, Tbilisi 2007.

Verifiable Fragments of Language: Everyday Language Quantifiers, *Szklarska Poręba Workshop*, 2007.

The Notion of Computational Complexity in Psycholinguistics. Empirical Evidence, *European Society for Philosophy and Psychology Annual Meeting*, Belfast 2006.

Computational Complexity of Some Ramsey Quantifiers in Finite Models, *Logic Colloquium*, Nijmegen 2006.

Hintikka's Thesis Revisited, *Szklarska Poręba Workshop*, 2006.

Computational Basis for Natural Language Quantifiers Comprehension, *European Society for Psychology and Philosophy Annual Meeting*, Lund 2005.

Defining the Meanings of Quantifiers, *Prague International Colloquium on Logic, Games and Philosophy*, Prague 2004.

Can Every Indexical Sentence be Translated into Standing Sentence?, *Epistemological Controversies*, Toruń 2003.

Complexity Measures in Cognitive Science, *Psychological Research Methods Seminar*, Department of Psychology, Amsterdam 2012.

Model Transformations, *Logic and Interactive Rationality Seminar*, Groningen 2011.

The Complexity of the Sentence-picture Verification, *Multi-agent Systems Group Seminar*, Groningen 2011.

Characterizing Definability of Collective Quantifiers in Natural Language, *CogSci Forum*, Warsaw 2011.

Characterizing Definability of Second-order Generalized Quantifiers in Natural Language, *The Logic Seminar*, Gothenburg 2011.

An Alternative Story of Muddy Children, *Logic Seminar*, Helsinki 2010.

Monotonicity and Quantifiers, *Logic, Language, and Mind Seminar*, Stockholm 2010.

Monotonicity in Quantifier Verification, *Department of Linguistics Seminar*, Tübingen 2010.

MOST, *Seminar on Psycholinguistics and Processing of 'most'*, Tübingen 2010.

Quantifier Processing, *Research Seminar in Logic and Language*, Tilburg 2010.

Data Complexity of the Quantifier Fragments in Natural Language, *GLoRiClass Farewell Event*, Amsterdam 2010.

Collective Quantification, Type-shifting, and Complexity, *Leiden Utrecht Semantic Happening*, Utrecht 2009.

Understanding Quantifiers, *Theoretical Cognitive Science Group Meeting*, Nijmegen 2009.

INVITED  
SEMINAR  
TALKS

Complexity of Quantifiers, *Computational Linguistics Seminar*, Amsterdam 2009.

Quantifiers, Automata and Language Comprehension, *Logic Tea*, Amsterdam 2008.

Computational Insights into Meaning, *GLoRiClass Halftime Event*, Amsterdam 2008.

Quantifiers Comprehension. A Comment on Existing Studies and Proposition of a New Experiment, *Logic, Language, and Reasoning Seminar*, Amsterdam 2007.

LANGUAGES Polish (native); English (fluent); Dutch (intermediate); Russian, German (basics)

HOBBY Climbing and Alpinism

December 2011