

# Nick Bezhanishvili

## Address

Institute for Logic, Language and Computation  
University of Amsterdam  
P.O. Box 94242  
1090 GE Amsterdam  
The Netherlands  
Email: N.Bezhanishvili@uva.nl

## Personal details

Birth date	27 February, 1978.
Citizenship	British.
Birth country	Georgia.

## Doctorate

17 March, 2006	PhD in logic from the Institute for Logic, Language and Computation, University of Amsterdam. Thesis: <i>Lattices of intermediate and cylindric modal logics</i> . Advisor: Professor Dick de Jongh, co-advisor: Dr Yde Venema.
2002–2006	PhD student, Institute for Logic, Language and Computation, University of Amsterdam. Advisor: Professor Dick de Jongh.

## Master's

22 June, 2000	Awarded MSc in Mathematics with honours from Tbilisi State University. Thesis: $\mathbf{Df}_2$ and its subvarieties. Advisor: Professor Leo Esakia.
1998–2000	MSc student in Mathematics, Tbilisi State University.

## Undergraduate studies

22 June, 1998	Awarded BSc in Mathematics with honours from Tbilisi State University.
1994–1998	BSc student in Mathematics, Tbilisi State University.

## Current employment

1/2014 - date      Assistant Professor at Institute for Logic, Language and Computation (ILLC), University of Amsterdam.

## Work experience

10/2012-12/2013      Research Associate in the NWO project “The power of constructive proofs”, Department of Philosophy, Utrecht University.

10/2011-09/2012      Research Associate in the project “ACSI: Artifact-centric service interoperation”, (European Community’s FP7 Programme) Department of Computing, Imperial College London.

09/2008-09/2011      Research Associate in the project “Order-topological and model-theoretic methods in modal logic”, (EPSRC grant EP/F032102/1) Department of Computing, Imperial College London.

10/2007-08/2008      Fixed term lecturer in computer science, Department of Computer Science, University of Leicester.

04/2006–09/2007      Research Associate in the project “Coalgebras, Modal Logic, Stone Duality” (EPSRC grant EP/C0140414/1), Department of Computer Science, University of Leicester.

01/2006-03/2006      Fixed term lecturer in logic, University of Amsterdam.

2000–2001      Research Associate in Mathematical Logic, Institute of Cybernetics, Georgian Academy of Sciences.

## Teaching experience

Fall 2014      *Introduction to Modal Logic*, a course for 3rd-year undergraduate students at the Department of Mathematics and 1st year Master of Logic students at the ILLC, University of Amsterdam, 13 lectures.

Spring 2014      *Mathematical Logic*, a course for 2nd year undergraduate students at the Department of Mathematics, University of Amsterdam, 14 lectures.

Spring 2013      *Computational complexity*, a course for 2nd and 3rd-year undergraduate students in the AI programme at Utrecht University, 16 lectures. Includes preparing coursework and exam papers, marking and examining.

Fall 2009, 2010      *Modal and temporal logic*, a course for 4th-year undergraduate and MSc students at Department of Computing, Imperial College London taught with Ian Hodkinson and Clemens Kupke, 18 lectures. Includes designing the course, preparing the lecture notes, coursework and exam papers, marking and examining.

Spring 2008      *Logic Programming*, a 2nd-year undergraduate course, University of Leicester, 16 lectures. Includes preparing coursework and exam papers, marking and examining.

Winter 2006      *Introduction to Category Theory and Categorical Logic*, an MSc course, University of Amsterdam, 14 lectures. Includes designing the course, preparing coursework and exam papers, marking and examining.

August 2005 *Intuitionistic logic*, a course taught with Dick de Jongh at the European Summer School in Logic, Language and Information (ESSLLI'05), Edinburgh, UK. Includes designing the course and preparing the lecture notes.

### Student supervision

Spring 2014 Supervision (with Julia Ilin) of Dorien Zwanevelds for Bachelor's thesis *Sub-directly irreducible algebras in varieties of universal algebras*, ILLC, University of Amsterdam.

Summer 2013 Supervision (with Sonja Smets) of Aybuke Ozgun for Master's thesis *Topological models for belief and belief revision*, ILLC, University of Amsterdam. Defense date: 21 August, 2013.

Winter 2013 Supervision of Master's of Logic student A. Ozgun in *General Topology*, ILLC, University of Amsterdam.

Fall 2012 Supervision (together with D. de Jongh) of A. Tzimoulis and Zh. Zhao's project *The Universal Model for the  $[\wedge, \vee, \rightarrow]$ -fragment of IPC*, ILLC, University of Amsterdam.

Fall 2006 Supervision (with Yde Venema) of Gaelle Fontaine for Master's thesis *Axiomatization of ML and Cheq*, University of Amsterdam, November 2006.

Winter 2006 Project supervision for 15 Master's students in *Intuitionistic logic* at the ILLC, University of Amsterdam. (some of these papers were published as a technical report of the ILLC).

Winter 2005 Project supervision for 15 Master's students in *Algebraic logic* at the ILLC, University of Amsterdam.

### Other Teaching activity

Winter 2009-date I have been giving popular lectures to school pupils (in the school 'XXI century', Tbilisi, Georgia) on history of mathematics and computer science (5 lectures up to now).

January 2013 *A crash course in logic*, a popular course (training) for the staff of the Natakhtari Company, Tbilisi, Georgia.

December 2012 *Logic in Georgia*, a popular lecture on the history of logic in Georgia given to the members of the British-Georgian Society, Georgian Embassy, London.

### Invited talks

June 2014 *Stable canonical rules*, International Workshop on Topological Methods in Logic, TOLO 4, Tbilisi.

August 2013 *Canonical formulas via locally finite reducts and generalized dualities*, International Conference on Topology, Algebra and Categories in Logic (TACL'13), Nashville.

June 2012 *Modal compact Hausdorff spaces*, International Workshop on Duality Theory in Algebra, Logic and Computer Science, University of Oxford.

- June 2012 *Logics for compact Hausdorff spaces*, The Twenty-eighth Conference on the Mathematical Foundations of Programming Semantics, MFPS XXVIII, An invited talk at the Computability on Continuous Data session, University of Bath.
- September 2011 *A duality for modal de Vries algebras*, Ordered Groups and Lattices in Algebraic Logic, Tbilisi, Georgia.
- May 2011 *An algebraic approach to canonical formulas*, International Workshop on Unification and Admissible Rules, Utrecht University.
- June 2010 *Sahlqvist theorem for modal fixed point logic*, International Workshop on Topological Methods in Logic, TOLO 2, Tbilisi.
- March 2009 *Free Heyting algebras: coalgebraic approach*, Coalgebra Day, CWI, Amsterdam.
- June 2008 *Bitopological duality for distributive lattices and Heyting algebras*, International Workshop on Topological Methods in Logic, TOLO 1, Tbilisi.
- May 2007 *A coalgebraic view on canonical models of modal logic*, International Workshop on Logics for Coalgebras, University of Amsterdam.
- June 2004 *Introduction to intuitionistic propositional logic*, (with Dick de Jongh), OZSL schoolweek, Utrecht University.
- November 2003 *Extensions of  $\mathbf{S5}^2$  and better-quasi-orderings*, ILLC-Day in Bonn, University of Bonn.

#### Colloquium talks

- February 2013 *The theory of canonical formulas*, Department of Mathematics, University of Denver.
- November 2012 *Morphisms for the Positive Fragment of Intuitionistic Logic*, PIIA Seminar (Seminar on Provability, Interpretability, Intuitionism, Arithmetic), ILLC, University of Amsterdam.
- November 2012 *Extended dualities and Sahlqvist theorem for compact Hausdorff spaces*, LIRa Seminar (Seminar on Logic and Interactive Rationality), ILLC, University of Amsterdam.
- October 2012 *Duality for Heyting algebras and axiomatization of intermediate logics*, TF Lunch Seminar (Theoretical Philosophy Group Seminar), Department of Philosophy, Utrecht University.
- February 2012 *Duality theory in algebraic logic*, Department of Mathematics, University of Denver.
- February 2011 *Duality and Sahlqvist theorem for modal compact Hausdorff spaces*, Analytic Topology Seminar, University of Oxford.
- April 2011 *Sahlqvist theorem for admissible fixed point logic*, a series of talks given at logic seminars of City University New York (CUNY), Cornell University, University of Denver, Indiana University, Chapman University, New Mexico State University.
- May 2010 *Coalgebraic semantics of modal logic*. Logic Seminar, University of Bern.
- May 2009 *Generalized Esakia duality*, Theory Seminar, University of Oxford.

January 2008	<i>Extensions of S5-squared: decidability and complexity</i> , Algorithms and Complexity Group Seminar, University of Leicester.
January 2008	<i>Vietoris bisimulations of descriptive models</i> , Istanbul Kultur University, Turkey.
May 2007	<i>Frame-based formulas for modal logics</i> , Verification and Testing Group Seminar, University of Sheffield.
March 2007	<i>Profinite Heyting algebras</i> , Theory Seminar, Department of Computer Science, University of Birmingham.
October 2006	<i>Free modal algebras</i> , Algebra and Topology Seminar, Mathematics Institute, University of Oxford.
October 2006	<i>Free modal algebras: an overview</i> , Logic and Computation Seminar, Department of Computer Science, University of Liverpool.
February 2006	<i>Axiomatizations of modal logics using frame-based formulas</i> , Mathematical Logic Seminar, ULB, Brussels.
April 2004	<i>The logic of the Rieger-Nishimura ladder</i> , Math. Logic Colloquium, University of Amsterdam.
March 2003	<i>n-universal models and extendible sets</i> , Logic Tea, University of Amsterdam.
November 2002	<i>Two-dimensional cylindric algebras</i> , GLCC Seminar, King's College London.
May 2002	<i>Normal extensions of S5-square</i> , Mathematical Logic Seminar, ULB, Brussels.

#### Conference Talks

August 2014	<i>Multiple-conclusion rules, hypersequent syntax and step frames</i> . Advances in Modal Logic, AiML 2014, Groningen, The Netherlands.
October 2013	<i>Topological semantics of epistemic and doxastic logic</i> , Tsinghua Meets the ILLC, Beijing, China.
October 2013	<i>The topology of belief, belief revision and defeasible knowledge</i> , Logic, Rationality, and Interaction, LORI IV, Hangzhou, China.
July 2011	<i>Sahlqvist preservation for modal mu-algebras</i> , Topology, Algebra and Categories in Logic, TACL'11, Marseilles, France.
June 2010	<i>Sahlqvist theorem for modal fixed point logic</i> , International workshop on topological methods in logic, TOLO'10, Tbilisi, Georgia.
December 2009	<i>Model theory of descriptive frames</i> , International workshop on coalgebraic logics, Schloss Dagstuhl, Germany.
September 2009	<i>Free Heyting algebras</i> , 3rd International Conference on Algebra and Coalgebra in Computer Science, CALCO'09, Udine, Italy
July 2009	<i>An algebraic approach to canonical formulas: Intuitionistic case</i> , Topology, Algebra and Categories in Logic, TACL'09, Amsterdam, The Netherlands.
September 2008	<i>Bitopological Duality for Distributive Lattices and Heyting Algebras</i> , Domains IX, Brighton, UK.
May 2008	<i>Free Heyting algebras: revisited</i> , ManyVal'08, University of Milan, Italy.

October 2007	<i>Extendable formulas in two variables in intuitionistic logic</i> , 7th International Tbilisi Symposium on Language, Logic and Computation, Tbilisi, Georgia.
August 2007	<i>Free modal algebras: a coalgebraic perspective</i> , 2nd Conference on Algebra and Coalgebra in Computer Science CALCO'07, Bergen, Norway.
August 2007	<i>Profinite Heyting algebras</i> , Algebraic and Topological Methods in Non-Classical Logics III, University of Oxford, UK.
November 2006	<i>Free modal algebras: a coalgebraic perspective</i> , Coalgebra Day, University of Nijmegen, The Netherlands.
June 2006	<i>The final coalgebra for the Vietoris functor</i> , Modal logic, Stone duality, and Coalgebras, University of Leicester, UK.
June 2005	<i>The variety generated by the Rieger-Nishimura lattice</i> , Algebraic and Topological Methods in Non-Classical Logics II, Barcelona, Spain.
December 2004	<i>A spatio-temporal logic of <math>\mathbb{R}</math></i> , OZSL Accolade, Nunspeet, The Netherlands.
September 2004	<i>Sahlqvist theory and transfer results for hybrid logic</i> , Advances in Modal Logic 2004, Manchester, UK.
December 2003	<i>Transfer results for hybrid logic</i> , HyLo'5, University of Amsterdam, The Netherlands.
June 2003	<i>Exact and extendible formulas in intuitionistic propositional calculus</i> , Algebraic and Topological Methods in Non-Classical Logics I, Tbilisi State University, Georgia.
October 2002	<i>Automorphisms of the Lindenbaum-Tarski algebra of intuitionistic logic</i> , OZSL Accolade, University of Amsterdam, The Netherlands.
August 2002	<i>Projective formulas in two variables in intuitionistic propositional logic</i> , Logic Colloquium 2002, Muenster, Germany.
November 2001	<i>Lattices of varieties of two-dimensional cylindric algebras</i> , Soros Conference for Graduate and Post Graduate Students, Georgian Academy of Sciences, Tbilisi, Georgia.
September 2001	<i>Subvarieties of <math>\mathbf{CA}_2</math></i> , The Fourth Tbilisi International Symposium on Language, Logic and Computation, Borjomi, Georgia.
September 1999	<i><math>\mathbf{Df}_2</math> and its subvarieties</i> , The Third Tbilisi International Symposium on Language, Logic and Computation, Chakvi, Georgia.
September 1997	<i>Monadic and pseudomonadic algebras</i> , The Second Congress of Georgian Mathematicians, Technical University of Tbilisi, Georgia.
November 1995	<i>The variety of pseudomonadic algebras</i> , Soros Conference for Graduate and Post Graduate Students, Georgian Academy of Sciences, Tbilisi, Georgia.

## Editorial

2013 - date	Member of the Editorial Board of Journal of Logic, Language and Information.
2013 - date	Member of the Editorial Board of Mathematical Logic Quarterly.
July 2011 - date	Area editor (Logic) of FoLLI sub-series of LNCS (Lecture Notes in Computer Science).

### SC member

2010 - date                      Steering Committee member of the workshop series “Algebra and Coalgebra meet Proof Theory” (ALCOP).

### PC chair

2012 - 2013                      Programme Committee Chair of “The Tenth Tbilisi Symposium on Language, Logic, and Computation” (TbiLLC 2013), Gudauri, Georgia.

### PC member

2014 - 2015                      Programme Committee member of “Topology, Algebra and Categories in Logic” (TACL 2015), Ischia, Italy.

2014 - 2015                      Programme Committee member of “The Eleventh Tbilisi Symposium on Language, Logic, and Computation” (TbiLLC 2015), Tbilisi, Georgia.

2013 - 2014                      Programme Committee member of “Advances in Modal Logic 2014” (AiML’14), Groningen, The Netherlands.

2013                                  Programme Committee Member of “The Twenty-Ninth Conference on the Mathematical Foundations of Programming Semantics” (MFPS XXIX), New Orleans, USA.

2011 - 2012                      Programme Committee member of “Advances in Modal Logic 2012” (AiML’12), Copenhagen, Denmark.

2011                                  Programme Committee member of “The Swiss Workshop on Algebra and Coalgebra meet Proof Theory” (ALCOP’11), University of Bern.

2005, 2009                      Program Committee member of “The Sixth and Eighth Tbilisi Symposiums on Language, Logic, and Computation”, Georgia.

2008 - 2009                      Program Committee member of “International Conference on Topology, Algebra and Categories in Logic” (TACL’09), Amsterdam, The Netherlands.

### Organizer

September 2014 -                Co-organizer of a bi-weekly Algebra and Coalgebra Seminar, ILLC, University of Amsterdam.  
date

April 2013                      Co-organizer of ALCOP 2013, Utrecht University.

November 2012 -                Co-organizer of PIIA-seminar (Provability, Interpretability, Intuitionism, Arithmetic), joint event of the Universities of Amsterdam and Utrecht.  
date

August 2012                      Co-organizer of “The Sixteenth Wessex Theory Seminar”, Imperial College London.

2008, 2010, 2012,                Co-organizer of “International workshops on Topological Methods in Logic”  
2014                                  (ToLo’08, ToLo’10, ToLo’12, ToLo’14), Tbilisi, Georgia.

January 2010                      Co-organizer of the Dutch-British workshop “Algebra and Coalgebra meet Proof Theory” (ALCOP’10), Imperial College London.

September 2009	Organizer of the workshop dedicated to the birthdays of Leo Esakia and Dick de Jongh, satellite event of “The Eighth Tbilisi Symposium on Language, Logic and Computation”, Bakuriani, Georgia.
2008 - 2012	Co-organizer of the weekly “LogIC Seminar”, Department of Computing, Imperial College London.
June 2006	Co-organizer of the workshop “Modal Logic, Stone Duality, and Coalgebras”, Leicester, UK.
March 2006	Organizer of “Amsterdam-London Workshop on Modal Logic”, Amsterdam, The Netherlands.
2001, 2003, 2007	Organizing committee member of “The Fourth, Fifth and Seventh International Tbilisi Symposiums on Language, Logic, and Computation”, Georgia.
June 2003	Organizing committee member of “An International Conference on Algebraic and Topological methods in Non-Classical Logics I” (TANCL’03), Tbilisi, Georgia.

### Service

Referee for *Theoretical Computer Science*, *Algebra Universalis*, *Journal of Philosophical Logic*, *Studia Logica*, *Journal of Logic and Computation*, *Order*, *Fundamenta Informaticae*, *Mathematical Logic Quarterly*, *Central European Mathematical Journal*, *Journal of Applied Non-Classical Logics*, *Notre Dame Journal of Formal Logic*, *Advances in Modal Logic* 2006, 2008, 2010, *ESSLLI Student Session* 2003, 2004, Reviewer for *Mathematical Reviews*, and *Zentralblatt Math*.

April 2013	Member of the PhD Defense Committee for Arno Bastenhoff, Utrecht University.
November 2006	Member of Master’s Defense Committee for Jacob Vossmaer, University of Amsterdam.
September 2004	Member of Master’s Defense Committee for Spencer Gerhardt, University of Amsterdam.
June 2004	Member of Master’s Defense Committee for Mark Theunissen, University of Amsterdam.
March 2004	Member of Master’s Defense Committee for Be Birchail, University of Amsterdam.

### Scholarships, grants and prizes

2012 - 2014	Co-author of (converted to Euro) €80,000 Shota Rustaveli Georgian Science Foundation grant “Topological semantics of modal logic”.
2010	Awarded £500 departmental bonus (Imperial College London) in recognition of high level research activity over the year.
2010	Awarded £3000 British Council grant to co-organize a workshop “Algebra and Coalgebra meet Proof Theory” at Imperial College London.
2009 - 2012	Co-author of (converted to Euro) €68,000 Georgian National Science Foundation grant “Duality theory and its applications to the semantics of non-classical logics”.



2008 - 2011	Co-author of £287,208 EPSRC grant “Order-topological and model theoretic methods in modal logic”.
2006 - 2008	Co-author of (converted to Euro) €30,000 Georgian National Science Foundation grant “Semantics of intuitionistic modal logic: algebraic and topological models”.
2006	Awarded €1500 NWO grant to organize “Amsterdam-London Workshop on Modal Logic” at University of Amsterdam.
Fall 2001	Winner of “The 7th Soros Conference for Students and Postgraduate Students” (I Prize), Tbilisi, Georgia.
Fall 1995	Winner of “The 1st Soros Conference for Students and Postgraduate Students” (III Prize), Tbilisi, Georgia.

## Publications

### Refereed Journal Articles

1. N. Bezhanishvili and S. Ghilardi, *The bounded model property via step algebras and step frames*, *Annals of Pure and Applied Logic*, 165 (12), pp. 1832–1863, 2014.
2. G. Bezhanishvili and N. Bezhanishvili, *Locally finite reducts of Heyting algebras and canonical formulas*, *Notre Dame Journal of Formal Logic*, to appear.
3. G. Bezhanishvili, N. Bezhanishvili, and J. Harding, *Modal operators on compact regular frames and de Vries algebras*, *Applied Categorical Structures*, to appear, doi:10.1007/s10485-013-9332-9.
4. G. Bezhanishvili, N. Bezhanishvili, and J. Harding, *Modal compact Hausdorff spaces*, *Journal of Logic and Computation*, to appear, doi:10.1093/logcom/exs030.
5. G. Bezhanishvili and N. Bezhanishvili, *Canonical formulas for  $\mathbf{wK4}$* . *Review of Symbolic Logic*, 4, pp. 731-762, 2012.
6. N. Bezhanishvili and I. Hodkinson, *Preservation of Sahlqvist fixed point equations in completions of relativized fixed point Boolean algebras with operators*. *Algebra Universalis*, 68, pp. 43-56, 2012.
7. N. Bezhanishvili and I. Hodkinson, *Sahlqvist theorem for modal fixed point logic*. *Theoretical Computer Science*, 424, pp. 1-19, 2012.
8. N. Bezhanishvili and D. de Jongh, *Extendable formulas in two variables in intuitionistic logic*. *Studia Logica*, 100, pp. 61-89, 2012.
9. J. van Benthem, N. Bezhanishvili, and I. Hodkinson, *Sahlqvist correspondence for modal  $\mu$ -calculus*. *Studia Logica*, 100, pp. 31-60, 2012.
10. G. Bezhanishvili and N. Bezhanishvili, *An algebraic approach to canonical formulas: Modal case*. *Studia Logica*, 99, pp. 337-369, 2011.
11. N. Bezhanishvili and M. Gehrke, *Finitely generated free Heyting algebras via Birkhoff duality and coalgebra*, *Logical Methods in Computer Science*, 7, pp. 1-24, 2011.
12. N. Bezhanishvili, G. Fontaine, and Y. Venema, *Vietoris bisimulations*, *Journal of Logic and Computation*, 20, pp. 1017-1040, 2010.
13. G. Bezhanishvili, N. Bezhanishvili, D. Gabelaia, and A. Kurz, *Bitopological duality for distributive lattices and Heyting algebras*, *Mathematical Structures in Computer Science*, 20, pp. 359-393, 2010.

14. G. Bezhanishvili and N. Bezhanishvili, *An algebraic approach to canonical formulas: Intuitionistic case*, Review of Symbolic Logic, 2, pp. 517-549, 2009
15. N. Bezhanishvili, *Frame based formulas for intermediate logics*, Studia Logica, 90, pp. 139-159, 2008.
16. G. Bezhanishvili and N. Bezhanishvili, *Profinite Heyting algebras*, Order, 25, pp. 211-223, 2008.
17. G. Bezhanishvili, N. Bezhanishvili, D. de Jongh, *The Kuznetsov-Gerciu and Rieger-Nishimura Logics: The Boundaries of the Finite Model Property*, Logic and Logical Philosophy, 17, pp. 73-110, 2008.
18. N. Bezhanishvili and B. ten Cate, *Transfer results for hybrid logic Part I: the case without satisfaction operators*, Journal of Logic and Computation, 16, pp. 177-197, 2006.
19. N. Bezhanishvili and I. Hodkinson, *All normal extensions of S5-squared are finitely axiomatizable*, Studia Logica, 78, pp. 443-457, 2004.
20. N. Bezhanishvili, *Varieties of two-dimensional cylindric algebras. Part II*, Algebra Universalis, 51, pp. 177-206, 2004.
21. N. Bezhanishvili and M. Marx, *All proper normal extensions of S5-square have the polynomial size model property*, Studia Logica, 73, pp. 367-382, 2003.
22. N. Bezhanishvili, *Varieties of two-dimensional cylindric algebras. Part I: Diagonal-free case*, Algebra Universalis, 48, pp. 11-42, 2002.
23. N. Bezhanishvili, *Pseudomonadic algebras as algebraic models of doxastic modal logic*, Mathematical Logic Quarterly, 48, pp. 624-636, 2002.

## Refereed Conference Proceedings

24. N. Bezhanishvili and S. Ghilardi, *Multiple-conclusion rules, hypersequent syntax and step frames*. In Proceedings of Advances in Modal Logic (AiML) 2014, R. Gore, B. Kooi, and A. Kurucz (Eds.), College Publications, pp. 54-61, 2014.
25. A. Baltag, N. Bezhanishvili, A. Ozgun, S. Smets. *The topology of belief, belief revision and defeasible knowledge*. In *Logic, Rationality, and Interaction*, Proceedings of LORI 4, Grossi, D., Roy, O. and Huang, H. (Eds.), Lecture Notes in Computer Science 8196, Springer, pp. 27-40, 2013.
26. N. Bezhanishvili and S. Ghilardi, *Bounded proofs and step frames*, In *Automated Reasoning with Analytic Tableaux and Related Methods*, Proceedings of Tableaux 2013, Galmiche, D. and Larchey-Wendling, D. (Eds.), Lecture Notes in Artificial Intelligence 8123, Springer, pp. 44-58, 2013.
27. N. Bezhanishvili, C. Kupke, and P. Panangaden, *Minimization via Duality*, L. Ong and R. de Queiroz (Eds.): WoLLIC 2012, LNCS 7456, pp. 191-205. Springer, Heidelberg, 2012.
28. N. Bezhanishvili and M. Gehrke, *Free Heyting algebras: Revisited*, Proceedings of International Conference on Algebra and Coalgebra in Computer Science, CALCO'09, LNCS 5728, pp. 251-266, 2009.
29. N. Bezhanishvili and A. Kurz, *Free modal algebras: a coalgebraic perspective*, CALCO'07, LNCS 4624, pp. 143-157, 2007.
30. N. Bezhanishvili, *Distributive lattices with quantifier: Topological representation*, Proceedings of the ESSLLI Student Session, Utrecht 1999, pp. 91-101, 1999.
31. N. Bezhanishvili, *Pseudomonadic algebras*, Proceedings of the ESSLLI Student Session, Prague 1996, pp. 1-5, 1996.

## Book Chapters

32. H. Andréka, J. van Benthem, N. Bezhanishvili, I. Németi. *Changing a semantics: opportunism or courage?*, volume dedicated to Leon Henkin, Springer, 2014.
33. N. Bezhanishvili, S. Ghilardi, and M. Jibladze, *Free modal algebras revisited: the step-by-step method*, in Leo Esakia on Duality in Modal and Intuitionistic Logics, Trends in Logic, Springer, to appear.
34. N. Bezhanishvili and W. van der Hoek, *Structures for epistemic logic*, in Logical and Informational Dynamics, A. Baltag and S. Smets (Eds.), Trends in Logic, Springer, to appear.
35. N. Bezhanishvili, *Varieties of two-dimensional cylindric algebras*, in Cylindric-like Algebras and Algebraic Logic, H. Andréka, M. Ferenczi, I. Németi editors, Bolyai Society, Mathematical Studies 22, pp. 79-101, 2012.

## Edited Volumes

36. N. Bezhanishvili and V. Goranko, editors, *ESSLLI 2010 Copenhagen, Denmark, August 2010, ESSLLI 2011 Ljubljana, Slovenia, August 2011. Selected Courses/Lectures notes*, Lecture Notes in Computer Science, LNCS 7388, Springer, 2012.
37. N. Bezhanishvili, S. Löbner, K. Schwabe, and L. Spada, editors, *Tbilisi Symposium on Logic, Language and Computation, TbiLLC'09, Revised Selected Papers*, Lecture Notes in Artificial Intelligence, LNAI 6618, Springer, 2011.

## Other Publications

38. N. Bezhanishvili, *Lattices of Intermediate and Cylindric Modal Logics*, PhD thesis, ILLC, University of Amsterdam, 224 pages, 2006.
39. N. Bezhanishvili and D. de Jongh, *Intuitionistic Logic*, ILLC, University of Amsterdam, PP-2006-25, 57 pages, 2006.
39. N. Bezhanishvili, *De Jongh's characterization of intuitionistic propositional calculus*, Liber Amicorum Dick de Jongh, Amsterdam, 2004.