

Curriculum Vitae

NIKOLAOS GALATOS

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Education

Ph.D. in Mathematics, Vanderbilt University, Nashville, TN, USA, May 2003.
Advisor: Professor Constantine Tsinakis.

M.S. in Mathematics, Vanderbilt University, Nashville, TN, USA, May 2000.
Advisor: Professor Constantine Tsinakis.

Diploma (B.S.) in Mathematics, *summa cum laude*, Aristotle University,
Thessaloniki, Greece, June 1998.

Professional Experience

Assistant Professor, Department of Mathematics, University of Denver, since 2007.

Assistant Professor, School of Information Science, Japan Advanced Institute of
Science and Technology (JAIST), 2005 - 2007.

Assistant Professor, Department of Mathematics, Vanderbilt University, 2004 - 2005.

Postdoctoral Researcher, School of Information Science, JAIST, 2003 - 2004.

Teaching Assistant, Department of Mathematics, Vanderbilt University, 1998 - 2003.

Teaching Experience

Instructor, Department of Mathematics, University of Denver, since 2007.
Courses taught: Algebraic Logic, Linear Algebra, Calculus, Games and Logic.

Assisting with the supervision of Master's and Ph.D. students, JAIST, since 2005.
Students: H. Takamura, H. Kihara, D. Souma.

Seminar organizer, School of Information Science, JAIST, since 2005.
Seminar title: Algebra and logic.

Instructor, Department of Mathematics, Vanderbilt University, 2004 - 2005.
Courses taught: Abstract Algebra, Introduction to Mathematical Logic.

Seminar presenter, School of Information Science, JAIST, 2003 - 2004.
Seminar title: Rule separation for FLe.

Instructor, Department of Mathematics, Vanderbilt University, 1999-2003.
Courses taught: Calculus I and II, Accelerated Calculus I and II.

Tutor of Mathematics for the Learning Center and the School of Engineering,
Vanderbilt University, 2000, 2002.

Distinctions

Grants

NSF grant for conference organization (\$27,390, Principal Investigator), 2008.

Faculty Research Fund, University of Denver (\$1,500), 2008.

International Small Grant, University of Denver (\$500), 2008.

Research grant from the Japan Society for the Promotion of Science (1,000,000 Yen = \$10,000), 2007.

Travel grant from the COE program of JAIST (200,000 Yen = \$2,000), 2006.

Travel grant from the Japan Association for Mathematical Sciences (100,000 Yen = \$1,000), 2006.

Research grant from JAIST (400,000 Yen = \$4,000), 2006.

Travel grant from the Ogasawara foundation (240,000 Yen = \$2,400), 2006.

Research grant from the Japan Society for the Promotion of Science (1,100,000 Yen = \$11,000), 2006.

Inoue Foundation for Science Postdoctoral Research Fellowship, 2003-2004.

Dissertation Enhancement Grant, Vanderbilt University, 2002.

Korgialenios Foundation Grant for Postgraduate Studies, 2000-2003.

University Graduate Fellowship, Vanderbilt University, 1998-2002.

Graduate Teaching Assistantship, Vanderbilt University, 1998-2003.

Avramidis Foundation Grant for Excellence in Mathematics, 1996-1998.

Honors and Awards

The Bjarni Jónsson Prize for Research, Vanderbilt University, 2003.

The B.F. Bryant Prize for Excellence in Teaching, Vanderbilt University, 2002.

Summer Research Award, Vanderbilt University, 2002.

Award for mentoring Teaching Assistants in the Department of Mathematics of
Vanderbilt University, 2001, 2002, 2003.

Award for the highest cumulative GPA of the decade 1990-1999, Department of Mathematics, Aristotle University, 1999.

Awards and prizes for the highest GPA of the year from the Greek Government Fellowships Foundation (IKY), for each of the years 1995-1998.

Award and prize for the highest score among all applicants to the Department of Mathematics of Aristotle University in the national entrance examination of 1994, from the Greek State Scholarships Foundation (IKY), 1994.

Publications

Book

1. *Residuated Lattices: an algebraic glimpse at substructural logics*, with P. Jipsen, T. Kowalski and H. Ono, Studies in Logics and the Foundations of Mathematics, Elsevier, pp. 509+, 2007.

Research articles

2. *The undecidability of the word problem for distributive residuated lattices*, Ordered Algebraic Structures (J. Martinez, ed.), Kluwer Academic Publishers, Dordrecht (2002), 231-243.
3. *Cancellative residuated lattices*, with P. Bahls, J. Cole, P. Jipsen and C. Tsinakis, Algebra Universalis **50**(1) (2003), 83-106.
4. *Equational bases for joins of residuated-lattice varieties*, Studia Logica **76**(2) (2004), 227-240.
5. *Adding involution to residuated structures*, with J. Raftery, Studia Logica **77**(2) (2004), 181-207.
6. *Minimal varieties of residuated lattices*, Algebra Universalis **52**(2) (2005), 215-239.
7. *Generalized MV-algebras*, with C. Tsinakis, Journal of Algebra **283**(1) (2005), 254-291.
8. *Algebraization, parametrized local deduction theorem and interpolation for substructural logics over FL*, with H. Ono, Studia Logica **83** (2006), 279-308.
9. *Glivenko theorems and other translations for substructural logics over FL*, with H. Ono, Journal of Symbolic Logic **71**(4) (2006), 1353-1384.
10. *Irreducible residuated semilattices and finitely based varieties*, with J. Olson and J. Raftery, Reports on Mathematical Logic **43** (2008), 85-108.
11. *From axioms to analytic rules in nonclassical logics*, with A. Ciabattoni and K. Terui, Proceedings of LICS'08, 229-240, 2008.
12. *Equivalence of closure operators: an order-theoretic and categorical perspective*, with C. Tsinakis, to appear Journal of Symbolic Logic.

13. *Cut elimination and strong separation for substructural logics: an algebraic approach*, with H. Ono, accepted in *Annals of Pure and Applied Logic*.
- *Residuated frames with applications to decidability*, with P. Jipsen, submitted.
 - *The expressive power of structural rules for FL*, with A. Ciabattoni and K. Terui, submitted.

Theses

- *Varieties of residuated lattices*, Ph.D. thesis, Department of Mathematics, Vanderbilt University, 2003.
- *Selected topics on residuated lattices*, Qualifying paper, Department of Mathematics, Vanderbilt University, 2000.

Educational publication

- *From here to infinity: a foundation for Calculus*, with J. Staples et al., Thomson Learning Custom Publishing, 2001.

Conference presentations and Colloquium Talks

TBA, BLAST 2008 conference on Algebraic Logic, Set Theory and Universal Algebra, University of Denver, August 2009.

TBA (invited plenary talk), 7th Panhellenic Logic Symposium, July 2009, Patras, Greece.

TBA, Topology, Algebra and Categories in Logic, Amsterdam, July 2009.

TBA (invited talk), *Gentzen systems and Beyond workshop associated with the TABLEAUX 2009 conference*, Oslo, July 2009.

Non-associative residuated lattices, 2nd Mile Hight Conference on Nonassociative Mathematics, University of Denver, June 2009.

MV-algebras and l-groups as residuated lattices (invited week-long series of lectures), *Workshop on lattice-ordered groups and MV-algebras* and 12th Annual ORD/OAL, Bowling Green State University, June 2009.

Skew Relation Algebras (invited talk), *Ordered Groups in Logic*, Vanderbilt University, March 2009.

Generalized ordinal sums and translations (selected 40-min talk), *Logic, Algebra and Truth Degrees*, Siena, Italy, September 2008.

Residuated Lattices – a tutorial (invited 3-hour tutorial), Summer school on General Algebra and Ordered Sets, Trest, Czech Republic, September 2008.

The finite embeddability property for subvarieties of integral residuated lattices, BLAST 2008 conference on Algebraic Logic, Set Theory and Universal Algebra, University of Denver, August 2008.

On the substructural hierarchy (invited plenary talk), International Conference on Residuated Structures: Algebra and Logic, Buenos Aires, Argentina, April 2008.

Axiomatizations for intersections of substructural logics (invited 50-min talk), Shanks workshop on Proof Theory and Algebra, Vanderbilt University, March 2008.

Structural rules in FL: expressive power and cut elimination, Algebraic and Topological Methods in Non-classical Logics III, University of Oxford, UK, August 2007.

The variety of involutive residuated lattices is generated by its finite members (invited plenary talk), International conference on Order, Algebra and Logics, Vanderbilt University, USA, June 2007.

Algebraic cut elimination (invited seminar talk), Logic Summer School, Australian National University, Canberra, Australia, December 2006.

Residuated frames (invited 50-min talk), Workshop on Algebra and Substructural Logics III, Krakow, Poland, November 2006.

Cut elimination for substructural logics from a semantical perspective, Colloquium talk, Vienna University of Technology, Austria, November 2006.

Semantics for substructural logics, Colloquium talk, University of Milan, Italy, October 2006.

Decidability for involutive residuated lattices, Colloquium talk, Univesity of Szeged, Hungary, October 2006.

Glivenko theorems for substructural logics, Logic Colloquium 2006, Association for Symbolic Logic European Summer Meeting, Nijmegen, Netherlands, July 2006.

Lack of structural rules and algebraic semantics, Ordered structures in many-valued logics, Massa Lubrense, Sorrento, Italy, May 2006.

Algebraic methods in substructural logics, Logic Colloquium 2005, Association for Symbolic Logic European Summer Meeting, Athens, Greece, June 2005.

Equivalence of consequence relations: an order-theoretic and categorical perspective, Algebraic and topological methods in non-classical logics, Barcelona, Spain, June 2005.

Non-associative residuated lattices, American Mathematical Society 2004 Southeastern Section Meeting, special session: "Universal Algebra and Lattice Theory," Nashville, October 2004.

Translations in substructural logics, Logic Colloquium 2004, Association for Symbolic Logic European Summer Meeting, Torino, Italy, July 2004.

Non-associative substructural logics: algebraization, cut elimination and separation, Conference on Residuated Structures and Many-Valued Logics, Patras University, Greece, June 2004.

Residuated lattices – an introduction, Colloquium talk, Department of Mathematics, Aristotle University of Thessaloniki, Greece, May 2004.

Involutive commutative distributive residuated lattices, 37th Mathematical Logic Group meeting, Shizuoka, Japan, December 2003.

The join of finitely many varieties of residuated lattices (invited talk), Annual Meeting of the Association for Symbolic Logic, special session: “Algebraic Logic and Universal Algebra,” University of Illinois at Chicago, June 2003.

Decision problems for commutative distributive residuated lattices, Colloquium talk, University of Saskatoon, Canada, May 2003.

Generalized MV-algebras, Conference on Ordered Algebraic Structures, Vanderbilt University, March 2003.

A Priestley duality for bounded distributive residuated lattices, Annual meeting of the American Mathematical Society, special session: “The Many Lives of Lattice Theory and the Theory of Ordered Sets, with Connections to Combinatorics,” Baltimore, January 2003.

A categorical equivalence for integral GMV-algebras, Workshop on Algebra and Substructural Logics II, Japan Advanced Institute of Science and Technology, November 2002.

Continuum many idempotent minimal residuated-lattice varieties, International Conference on Modern Algebra in conjunction with the 17th annual Shanks Lectures, Vanderbilt University, May 2002.

Varieties of residuated lattices generated by positive universal classes, Conference on Ordered Algebraic Structures, Vanderbilt University, March 2002.

The undecidability of the word problem for the variety of distributive residuated lattices, Conference on Lattice-Ordered Groups and f-Rings, University of Florida, March 2001.

The subvariety lattice of residuated lattices, Workshop on Ordered Algebraic Structures, Vanderbilt University, March 2000.

Research and educational activities

Journals

- Member of the editorial board of the journal *Soft Computing*.
- Referee for the journals
 - *Journal of Symbolic Logic*
 - *Annals of Pure and Applied Logic*
 - *Studia Logica*
 - *Journal of Logic and Computation*
 - *Logic Journal of the Interest Group in Pure and Applied Logics*
 - *Mathematical Logic Quarterly*
 - *Algebra Universalis*
 - *Semigroup Forum*

- *Discussiones Mathematicae: General Algebra and Applications*
- *Czechoslovak Mathematical Journal*
- *Soft Computing*
- *Fuzzy Sets and Systems*
- *Lecture Notes in Computer Science*
- *Information Sciences*

Research visits

- Czech Academy of Sciences, Prague, September 2008.
- National Institute of Informatics, Tokyo, Japan, February 2007.
- Vienna University of Technology, Austria, November 2006.
- University of Siena, Italy, October 2006.
- University of Szeged, Hungary, October 2006.
- Chapman University, California, August 2006.

Conference Organization

- Program committee member for TACL, 2009.
- Co-chair of BLAST 2008 conference in Algebraic Logic, Set Theory and Universal Algebra, University of Denver, August 2008.
- Co-organizer of the Workshop in Algebra and Logic, JAIST, March 2007.

Advising/mentoring

- Examiner of the Ph.D. thesis of Ai-ni Hsieh, University of Natal, South Africa, expected graduation 2009.
- Ph.D. committee member for Dan Daly, University of Denver, expected graduation 2009.
- Ph.D. committee member for Aditya Nagrath, University of Denver, 2008.
- Examiner of the Master's thesis of Ai-ni Hsieh, University of Natal, South Africa, 2005.
- Assisting in the supervision of graduate students at JAIST, 2003-2004 and 2005-2007. (Students: Hitoshi Takamura, Hitoshi Kihara, Daisuke Souma.)
- Mentor for new Teaching Assistants in the Department of Mathematics of Vanderbilt University, 2000-2003.
- Founder, organizer and presenter at the Undergraduate Seminar in Mathematics of Vanderbilt University, 2000-2003.

Memberships and Service

- Associate member of the Consortium of Order, Algebra and Logic, since 2008

- Founding member of the BLAST committee and conference series.
- Library liaison for the Department of Mathematics, University of Denver, since 2008.
- Member of the review committee for the PROF awards (Professional Research Opportunities for Faculty), University of Denver, 2008.
- Member of the committee for the revision of the course offerings of the Department of Mathematics, University of Denver, 2008.
- Member of
 - American Mathematical Society (since 1998),
 - Association of Symbolic Logic (since 2005),
 - Mathematical Association of America (since 2004).
 - Mathematical Fuzzy Logic (since 2008).