

Jeffrey Sarnat

Curriculum Vitae

RESEARCH INTERESTS

the design and metatheory of programming languages; formalized reasoning; logical frameworks; type theory; proof theory; techniques for proving normalization and consistency; constructive logic; functional programming; logic programming

EDUCATION

2002-2010 Yale University, Department of Computer Science, New Haven, Connecticut, USA.
 Ph.D. in Computer Science, May 2010.
 Thesis: *Syntactic Finitism in the Metatheory of Programming Languages*
 Advisor: Prof. Carsten Schürmann.

2004 Yale University, Department of Computer Science, New Haven, Connecticut, USA.
M.S. in Computer Science, May 2004.

1998-2002 Carnegie Mellon University, Department of Computer Science, Pittsburgh, Pennsylvania, USA.
B.S. in Computer Science (with honors), May 2002.
Thesis: *The Undecidability of the Finite Refutability of Entailments in Lattice-Theoretic Models of the Lambda Calculus*

RESEARCH-RELATED EMPLOYMENT

12.2009-6.2011	Postdoc	πr^2 Group, INRIA-Rocquencourt Paris-Antenne, Paris, France
9.2005-8.2008	Research and Teaching Assistant	PLS Group, ITU Copenhagen, Copenhagen, Denmark

6.2001-8.2001	Research Intern	ROPAS Group, KAIST, Daejeon, South Korea
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TEACHING EXPERIENCE

Teaching Assistant

IT University of Copenhagen, Spring 2008 *Object-oriented Programming, Introduction.*Denmark Fall 2007 *Object-oriented Programming, Introduction.*Spring 2007 *Object-oriented Programming, Introduction.*Fall 2006 *Object-oriented Programming.*

Yale University, USA Fall 2004 *First-Order Logic (Phil 115).*

Spring 2004 *Data Structures and Programming Techniques (CS 223).*

Fall 2003 *Introduction to Computer Science (CS 201).*Carnegie Mellon University, USA Spring 2001 *Principles of Programming (15-212)*

PAPERS

Dissertation

Jeffrey Sarnat. *Syntactic Finitism in the Metatheory of Programming Languages*. Yale University Dissertation, May 2010.

Refereed Publications

Jeffrey Sarnat and Carsten Schürmann. *Lexicographic path induction*. In Proceedings of the 9th International Conference on Typed Lambda Calculi and Applications, Brasilia, Brazil, 1-3 July 2009, pages 279–293.

Carsten Schürmann and Jeffrey Sarnat. *Structural logical relations*. In Proceedings of the Twenty-Third Annual IEEE Symposium on Logic in Computer Science, 24-27 June 2008, Pittsburgh, PA, USA, pages 69–80, 2008.

Carsten Schürmann, Adam Poswolsky, and Jeffrey Sarnat. *The ∇ -calculus. Functional programming with higher-order encodings*. In Proceedings of the 7th International Conference on Typed Lambda Calculi and Applications, Nara, Japan, 21-23 April 2005, pages 339–353, 2005.

Unpublished Technical Reports

Jeffrey Sarnat *LF $_{\Sigma}$: The Metatheory of LF with Σ Types*. Yale Technical Report, 2003.

Carsten Schürmann, Adam Poswolsky, and Jeffrey Sarnat. *The ∇ -calculus. Functional programming with higher-order encodings*. Extended technical report. Yale Technical Report, 2004.

PUBLIC TALKS

- 2011 *Syntactically Finitary Account of Logical Relations (or: Do You Really Trust Your Proofs?)*, LIX, École Polytechnique, Palaiseau, France. Seminar.
- 2010 *Towards a sequent calculus formulation of the calculus of inductive constructions*, Warsaw, Poland. Contributed talk at TYPES 2010.
- 2009 *A New Consistency Proof for Intuitionistic Inductive Definitions Using the Lexicographic Path Ordering*, Queen Mary University, London. Seminar (joint with Imperial College).
- 2008 *Structural Logical Relations*, Pittsburgh, Pennsylvania, USA. Conference talk at LICS 2008.
- 2008 *Structural Logical Relations*, Turin, Italy. Contributed talk at TYPES 2008.

HONORS AND AWARDS

- 2005 Grant for participation fee, room and board and travel to the Marktoberdorf Summer School on Logical Aspects of Secure Computer Systems
- 2002 Member of Phi Beta Kappa academic honor society

REFEREEING

Conferences

Types in Language Design and Implementation (TLDI) 2005; Typed Lambda Calculi and Applications (TLCA) 2005; Logic for Programming, Artificial Intelligence and Reasoning (LPAR) 2005; International Colloquium on Automata, Languages and Programming (ICALP) 2006; International Joint Conference on Automated Reasoning (IJCAR) 2006; Principles and Practice of Declarative Programming (PPDP) 2007; LPAR 2008; PPDP 2008, International Conference on Functional Programming (ICFP) 2009; Computer Science Logic (CSL) 2010

Journals

Journal of Automated Reasoning, vol. 37, no. 4, 2006; Fundamenta Informaticae, vol. 77, no. 4, 2007