

# PUBLICATIONS

Laurențiu Leuştean

## 1 Books:

1. *Representations of many-valued algebras*, Editura Universitară, Bucharest, 2010, 130pp.

## 2 Book Chapters:

1. *Nonexpansive iterations in uniformly convex  $W$ -hyperbolic spaces*, in A. Leizarowitz, B. S. Mordukhovich, I. Shafrir, A. Zaslavski (Editors): *Nonlinear Analysis and Optimization I: Nonlinear Analysis*, Contemporary Mathematics, Vol. 513 (2010), AMS, 193-209.

## 3 Journal Papers:

1. *On the computational content of convergence proofs via Banach limits* (with U. Kohlenbach), to appear in *Philosophical Transactions of the Royal Society A*.
2. *Alternative iterative methods for nonexpansive mappings, rates of convergence and application* (with V. Colao, G. Lopez and V. Martin-Marquez), *Journal of Convex Analysis*, Vol. 18 (2011), No. 2, 465–487.
3. *Asymptotically nonexpansive mappings in uniformly convex hyperbolic spaces* (with U. Kohlenbach), *Journal of the European Mathematical Society*, Vol. 12 (2010), No. 1, 71-92.

4. *Maximal residuated lattices with lifting Boolean center* (with G. Georgescu and C. Mureşan),  
Algebra Universalis, Vol. 63 (2010), No. 1, 83-99.
5. *A quantitative Mean Ergodic Theorem for uniformly convex Banach spaces* (with U. Kohlenbach),  
Ergodic Theory and Dynamical Systems, Vol. 29 (2009), No. 6, 1907-1915.
6. *Rates of asymptotic regularity for Halpern iterations of nonexpansive mappings*,  
Journal of Universal Computer Science, Vol. 13 (2007), No. 11, 1680-1691;  
in C.S. Calude, G. Stefanescu, and M. Zimand (Editors): Combinatorics and Related Areas. A Collection of Papers in Honor of the 65th Birthday of Ioan Tomescu.
7. *The approximate fixed point property in product spaces* (with U. Kohlenbach),  
Nonlinear Analysis Series A: Theory, Methods & Applications, Vol. 66 (2007), No. 4, 806-818.
8. *A quadratic rate of asymptotic regularity in  $CAT(0)$ -spaces*,  
Journal of Mathematical Analysis and Applications, Vol. 325 (2007), No. 1, 386-399.
9. *Baer extensions of BL-algebras*,  
Journal of Multiple-Valued Logic and Soft Computing, Vol. 12 (2006), No. 3-4, 321-336.
10. *Sheaf representations of BL-algebras*,  
Soft Computing - A Fusion of Foundations, Methodologies and Applications, Vol. 9, No. 12 (2005), Special issue on BL-algebras, 897-909.
11. *Pseudo-hoops* (with G. Georgescu and V. Preoteasa),  
Journal of Multiple-Valued Logic and Soft Computing, Vol. 11 (2005), No. 1-2, 153-184.
12. *Compact representations of BL-algebras* (with A. Di Nola),  
Archive for Mathematical Logic, Vol. 42 (2003), No. 8, 737 - 761.

13. *Mann iterates of directionally nonexpansive mappings in hyperbolic spaces* (with U. Kohlenbach),  
Abstract and Applied Analysis, Vol. 2003 (2003), 449-477.
14. *The prime and maximal spectra and the reticulation of BL-algebras*,  
Central European Journal of Mathematics, Vol. 1 (2003), No. 3, 382-397.
15. *Canonical models and filtrations in three-valued propositional modal logic*,  
Journal of Multiple-Valued Logic, Vol. 8 (2002), No. 1-2, 577-590.
16. *Some classes of pseudo-BL algebras* (with G. Georgescu),  
Journal of Australian Mathematical Society, Vol. 73 (2002), No. 1, 127-153.
17. *Liquid flow time series prediction using feed-forward neural networks and SuperSAB learning algorithm*,  
Buletinul științific al Universității "Politehnica" din Timișoara, seria Automatică și Calculatoare, Vol. 47(61) (2002), No. 1, 77-82.
18. *Liquid flow time series prediction using feed-forward neural networks and Rprop learning algorithm*,  
Studies in Informatics and Control, Vol. 10 (2001), No. 4, 287-299.
19. *Boolean products of BL-algebras* (with A. Di Nola and G. Georgescu),  
Journal of Mathematical Analysis and Applications, Vol. 251 (2000), No. 1, 106-131.
20. *Some algebraic properties of non-commutative fuzzy structures*,  
Studies in Informatics and Control, Vol. 9 (2000), No. 4, 365-370.
21. *Consistence evaluation of a man-machine interaction language using connectionist models* (with C. Pribeanu),  
Revista Română de Informatică și Automatică, Vol. 10 (2000), No. 3, 40-45 (in Romanian).
22. *Applications of neural networks to natural phenomena forecasting* (with C. Barbălată),  
Revista Română de Informatică și Automatică, Vol. 8 (1998), No. 2, 37-44 (in Romanian).

## 4 Conference, Workshop Papers:

1. *Proof mining in  $\mathbb{R}$ -trees and hyperbolic spaces*,  
Electronic Notes in Theoretical Computer Science, Vol. 165 (2006),  
Elsevier, 95-106;  
in G. Mints and R. de Queiroz (Editors): Proceedings of the 13th  
Workshop on Logic, Language, Information and Computation (WOL-  
LIC 2006), Stanford University, CA, USA, 18-21 July 2006.
2. *Certifying optimality of state estimation programs* (with G. Roşu, R.  
Prasad Venkatesan and J. Whittle),  
Lecture Notes in Computer Science, Vol. 2725 (2003), Springer, 301-  
314;  
in W. A. Hunt Jr., F. Somenzi (Editors): Computer Aided Verification  
(CAV), Proceedings of the 15th International Conference, Boulder, CO,  
USA, 8-12 July 2003, Proceedings.
3. *Applications of feed-forward neural networks to ecological phenomena  
forecasting* (with C. Barbălata),  
in A. Ioniţă (Editor): Proceeding of the 5<sup>th</sup> International Conference  
on Information and Communication Technologies in Public Adminis-  
tration - ITCPA'2000, October 18-20, 2000, Bucharest, Romania, 183-  
192.

## 5 Technical Reports:

1. *Proof mining in fixed point theory and ergodic theory*,  
Oberwolfach Preprints OWP 2009-05, Mathematisches Forschungs-  
institut Oberwolfach, Germany, 2009, 71pp.
2. *Certifying Kalman Filters* (with G. Roşu),  
RIACS Technical Report TR.03.02, Research Institute for Advanced  
Computer Science (RIACS), NASA Ames Research Center, Moffet  
Field, CA, USA, January 2003, 53pp.

## 6 Published abstracts

1. *Recent developments in proof mining* (with U. Kohlenbach),

in S. Buss, U. Kohlenbach, M. Rathjen (Editors): Workshop Mathematical Logic: Proof Theory, Constructive Mathematics, November 6-12, 2011, Mathematisches Forschungsinstitut Oberwolfach; Oberwolfach Report 52 (2011), 20-22.

2. *Recent results in proof mining* (with U. Kohlenbach),  
in S. Buss, U. Kohlenbach, H. Schwichtenberg (Editors): Workshop Mathematical Logic: Proof Theory, Constructive Mathematics, April 6-12, 2008, Mathematisches Forschungsinstitut Oberwolfach; Oberwolfach Reports, Vol. 5, No. 2, European Mathematical Society Publishing House, 2008, 930-931.
3. *Proof mining in  $CAT(0)$ -spaces and  $\mathbb{R}$ -trees*,  
in R. Daverman, S. Friedlander, M. Lapidus, M. Miller, L. Sibner (Editors): Abstracts of Papers presented to the American Mathematical Society, Volume 28, No. 1, Issue 147, AMS, 2007, 16.
4. *Approximate fixed points of nonexpansive functions in product spaces* (with U. Kohlenbach),  
in T. Cocquand, H. Lombardi, M.-F. Roy (Editors): Mathematics, Algorithms, Proofs, January 9-14, 2005, Dagstuhl Seminar Proceedings 05021, Internationales Begegnungs- und Forschungszentrum (IBFI), Schloss Dagstuhl, Germany, 2006.
5. *Approximate fixed point property in product spaces* (with U. Kohlenbach),  
in S. Buss, Y. Moschovakis, H. Schwichtenberg (Editors): Workshop Mathematical Logic: Proof Theory, Type Theory and Constructive Mathematics, March 20-26, 2005, Mathematisches Forschungsinstitut Oberwolfach; Oberwolfach Reports, Vol. 2, No. 1, European Mathematical Society Publishing House, 2005, 795-797.
6. *Three-valued propositional dynamic logic*,  
in I. Gh. Roşca, I. Smeureanu (Editors): Information technology: the Proceedings of the 4<sup>th</sup> International Symposium of Economic Informatics, May 6-9, 1999, Bucharest, Romania, Infocore, 1999, 1006-1010.
7. *Applications of neural networks to some ecological phenomena forecasting*,

in I. Gh. Roşca, I. Smeureanu (Editors): Computer Science: the Proceedings of the 3<sup>rd</sup> International Symposium of Economic Informatics, May 6-9, 1997, Bucharest, Romania, Infocrec, 1999, 600-603.

## 7 Preprints:

1. *Effective metastability of Halpern iterates in  $CAT(0)$  spaces* (with U. Kohlenbach),  
arXiv:1107.3215v1 [math.FA], 2011.
2. *Detecting errors in domain theories* (with J. Richardson),  
draft, 2003.
3. *Average monthly liquid flow forecasting using neural networks* (with C. Barbălată),  
draft, 2002.