

# PUBLICATIONS

Laurențiu Leuştean

## Contents

1	Books	1
2	Book Chapters	1
3	Journal Papers	1
4	Conference, Workshop Papers	5
5	Technical Reports and Preprints	5
6	Published abstracts	6
7	Editing	7

## 1 Books

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

## 2 Book Chapters

1. *An application of proof mining to the proximal point algorithm in  $CAT(0)$  spaces* (with A. Sipoş)  
in: A. Bellow, C. Calude, T. Zamfirescu (Editors), *Mathematics Almost Everywhere. In Memory of Solomon Marcus*, World Scientific, 2018, 153-168.

2. *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 removal of weak compactness arguments in proof mining* (with F. Ferreira and P. Pinto)  
Advances in Mathematics, Vol. 354 (2019), 106728, 55p.
2. *Effective strong convergence of the proximal point algorithm in  $CAT(0)$  spaces* (with A. Sipoş),  
Journal of Nonlinear and Variational Analysis, Vol. 2 (2018), No. 2, 219-228.  
Special Issue dedicated to Simeon Reich.
3. *An abstract proximal point algorithm* (with A. Nicolae and A. Sipoş),  
Journal of Global Optimization, Vol. 72 (2018), No. 3, 553-577.
4. *Quantitative results on Fejér monotone sequences* (with U. Kohlenbach and A. Nicolae),  
Communications in Contemporary Mathematics, Vol. 20 (2018), 1750015 [42 pages].
5. *A note on an alternative iterative method for nonexpansive mappings* (with A. Nicolae),  
Journal of Convex Analysis, Vol. 24 (2017), No. 2, 501-503.
6. *Quantitative results on the Ishikawa iteration of Lipschitz pseudo-contractions* (with V. Radu and A. Sipoş),  
Journal of Nonlinear and Convex Analysis, Vol. 17 (2016), No. 11, 2277-2292.
7. *Effective results on nonlinear ergodic averages in  $CAT(k)$  spaces* (with A. Nicolae),  
Ergodic Theory and Dynamical Systems, Vol. 36 (2016), No. 8, 2580-2601.

8. *A note on an ergodic theorem in weakly uniformly convex geodesic spaces* (with A. Nicolae),  
Archiv der Mathematik, Vol. 105 (2015), No. 5, 467-477.
9. *A rate of asymptotic regularity for the Mann iteration of  $\kappa$ -strict pseudo-contractions* (with D. Ivan),  
Numerical Functional Analysis and Optimization, Vol. 36 (2015), No. 6, 792-798.
10. *Firmly nonexpansive mappings in classes of geodesic spaces* (with D. Ariza-Ruiz and G. López-Acedo),  
Transactions of the American Mathematical Society, Vol. 366 (2014), 4299-4322.
11. *An application of proof mining to nonlinear iterations*,  
Annals of Pure and Applied Logic, Vol. 165 (2014), No.9, 1484-1500.
12. *Effective results on compositions of nonexpansive mappings* (with A. Nicolae),  
Journal of Mathematical Analysis and Applications, Vol. 410 (2014), No. 2, 902-907.
13. *Effective metastability of Halpern iterates in  $CAT(0)$  spaces* (with U. Kohlenbach),  
Advances in Mathematics, Vol. 231 (2012), No. 5, 2526-2556.  
Addendum in Advances in Mathematics, Vol. 250 (2014), 650-651.
14. *On the computational content of convergence proofs via Banach limits* (with U. Kohlenbach),  
Philosophical Transactions of the Royal Society A, Vol. 370 (2012), No. 1971, 3449–3463,  
Theme Issue *The foundations of computation, physics and mentality: the Turing legacy*.
15. *Alternative iterative methods for nonexpansive mappings, rates of convergence and application* (with V. Colao, G. López-Acedo and V. Martin-Marquez),  
Journal of Convex Analysis, Vol. 18 (2011), No. 2, 465–487.
16. *Asymptotically nonexpansive mappings in uniformly convex hyperbolic spaces* (with U. Kohlenbach),

Journal of the European Mathematical Society, Vol. 12 (2010), No. 1, 71-92.

17. *Maximal residuated lattices with lifting Boolean center* (with G. Georgescu and C. Mureşan),  
Algebra Universalis, Vol. 63 (2010), No. 1, 83-99.
18. *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.
19. *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.
20. *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.
21. *A quadratic rate of asymptotic regularity in  $CAT(0)$ -spaces*,  
Journal of Mathematical Analysis and Applications, Vol. 325 (2007), No. 1, 386-399.
22. *Baer extensions of BL-algebras*,  
Journal of Multiple-Valued Logic and Soft Computing, Vol. 12 (2006), No. 3-4, 321-336.
23. *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.
24. *Pseudo-hoops* (with G. Georgescu and V. Preoteasa),  
Journal of Multiple-Valued Logic and Soft Computing, Vol. 11 (2005), No. 1-2, 153-184.

25. *Compact representations of BL-algebras* (with A. Di Nola),  
Archive for Mathematical Logic, Vol. 42 (2003), No. 8, 737 - 761.
26. *Mann iterates of directionally nonexpansive mappings in hyperbolic spaces* (with U. Kohlenbach),  
Abstract and Applied Analysis, Vol. 2003 (2003), 449-477.
27. *The prime and maximal spectra and the reticulation of BL-algebras*,  
Central European Journal of Mathematics, Vol. 1 (2003), No. 3, 382-397.
28. *Canonical models and filtrations in three-valued propositional modal logic*,  
Journal of Multiple-Valued Logic, Vol. 8 (2002), No. 1-2, 577-590.
29. *Some classes of pseudo-BL algebras* (with G. Georgescu),  
Journal of Australian Mathematical Society, Vol. 73 (2002), No. 1, 127-153.
30. *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.

## 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 (WOLLIC 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.

## 5 Technical Reports and Preprints

1. *Quantitative results on a Halpern-type proximal point algorithm* (with Pedro Pinto),  
arXiv:2001.10040 [math.OC], 2020.
2. *Barycenters in uniformly convex geodesic spaces* (with A. Nicolae and A. Zaharescu),  
arXiv:1609.02589 [math.MG], 2016.
3. *Proof mining in fixed point theory and ergodic theory*,  
Oberwolfach Preprints OWP 2009-05, Mathematisches Forschungsinstitut Oberwolfach, Germany, 2009, 71pp.
4. *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. *Proof theoretic methods in nonlinear analysis III. Quantitative results on Féjer monotone sequences* (with U. Kohlenbach and A. Nicolae),  
in S. Buss, U. Kohlenbach, M. Rathjen (Editors): Workshop Mathematical Logic: Proof Theory, Constructive Mathematics, November 16-22, 2014, Mathematisches Forschungsinstitut Oberwolfach;  
Oberwolfach Report 52 (2014), 28-29.
2. *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.
3. *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.

4. *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.
5. *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.
6. *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.

## 7 Editing

1. Guest editor (together with J. Kleijn and D. Lucanu) of: Special Issue on The Working Formal Methods Symposium (FROM 2018), *Fundamenta Informaticae*, Vol. 173 (2020), No. 2-3.