

PUBLICATIONS

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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. Sipoș)
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. *Rates of (T-)asymptotic regularity of the generalized Krasnoselskii-Mann-type iteration* (with P. Firmino),
Portugaliae Mathematica DOI: <https://doi.org/10.4171/PM/2148> (2025)
2. *Linear rates of asymptotic regularity for Halpern-type iterations* (with H. Cheval),
Mathematics of Computation, Vol. 94 (2025), 1323-1333.
3. *Quantitative asymptotic regularity of the VAM iteration with error terms for m-accretive operators in Banach spaces* (with P. Firmino),
Zeitschrift für Analysis und ihre Anwendungen, Vol. 44 (2025), No. 3/4, 501–519.
4. *Rates of asymptotic regularity for the alternating Halpern-Mann iteration* (with P. Pinto),
Optimization Letters, Vol. 18 (2024), 529–543.
5. *On modified Halpern and Tikhonov-Mann iterations* (with H. Cheval and U. Kohlenbach),
Journal of Optimization Theory and Applications, Vol. 197 (2023), 233–251.
6. *Quadratic rates of asymptotic regularity for the Tikhonov-Mann iteration* (with H. Cheval),
Optimization Methods and Software, Vol. 37 (2022), No. 6, 2225–2240.
7. *Quantitative results on a Halpern-type proximal point algorithm* (with P. Pinto),
Computational Optimization and Applications, Vol. 79 (2021), 101–125.
8. *On the removal of weak compactness arguments in proof mining* (with F. Ferreira and P. Pinto)
Advances in Mathematics, Vol. 354 (2019), 106728, 55p.
9. *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.
10. *An abstract proximal point algorithm* (with A. Nicolae and A. Sipoş),
Journal of Global Optimization, Vol. 72 (2018), No. 3, 553-577.
11. *Quantitative results on Fejér monotone sequences* (with U. Kohlenbach and A. Nicolae),
Communications in Contemporary Mathematics, Vol. 20 (2018), 1750015 [42 pages].
12. *A note on an alternative iterative method for nonexpansive mappings* (with A. Nicolae),
Journal of Convex Analysis, Vol. 24 (2017), No. 2, 501-503.

13. *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.
14. *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.
15. *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.
16. *A rate of asymptotic regularity for the Mann iteration of κ -strict pseudo-contractions* (with D. Ivan),
Numerical Functional Analysis and Optimization, Vol. 36 (2015), No. 6, 792-798.
17. *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.
18. *An application of proof mining to nonlinear iterations*,
Annals of Pure and Applied Logic, Vol. 165 (2014), No.9, 1484-1500.
19. *Effective results on compositions of nonexpansive mappings* (with A. Nicolae),
Journal of Mathematical Analysis and Applications, Vol. 410 (2014), No. 2, 902-907.
20. *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.
21. *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*.
22. *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.
23. *Asymptotically nonexpansive mappings in uniformly convex hyperbolic spaces* (with U. Kohlenbach),
Journal of the European Mathematical Society, Vol. 12 (2010), No. 1, 71-92.
24. *Maximal residuated lattices with lifting Boolean center* (with G. Geor-gescu and C. Mureşan),
Algebra Universalis, Vol. 63 (2010), No. 1, 83-99.

25. *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.
26. *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. Stefănescu, and M. Zimand (Editors): Combinatorics and Related
Areas. A Collection of Papers in Honor of the 65th Birthday of Ioan Tomescu.
27. *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.
28. *A quadratic rate of asymptotic regularity in $CAT(0)$ -spaces*,
Journal of Mathematical Analysis and Applications, Vol. 325 (2007), No. 1, 386-399.
29. *Baer extensions of BL-algebras*,
Journal of Multiple-Valued Logic and Soft Computing, Vol. 12 (2006), No. 3-4,
321-336.
30. *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.
31. *Pseudo-hoops* (with G. Georgescu and V. Preoteasa),
Journal of Multiple-Valued Logic and Soft Computing, Vol. 11 (2005), No. 1-2,
153-184.
32. *Compact representations of BL-algebras* (with A. Di Nola),
Archive for Mathematical Logic, Vol. 42 (2003), No. 8, 737 - 761.
33. *Mann iterates of directionally nonexpansive mappings in hyperbolic spaces* (with U. Kohlenbach),
Abstract and Applied Analysis, Vol. 2003 (2003), 449-477.
34. *The prime and maximal spectra and the reticulation of BL-algebras*,
Central European Journal of Mathematics, Vol. 1 (2003), No. 3, 382-397.
35. *Canonical models and filtrations in three-valued propositional modal logic*,
Journal of Multiple-Valued Logic, Vol. 8 (2002), No. 1-2, 577-590.
36. *Some classes of pseudo-BL algebras* (with G. Georgescu),
Journal of Australian Mathematical Society, Vol. 73 (2002), No. 1, 127-153.
37. *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 asymptotic regularity and T -asymptotic regularity for the inexact generalized Halpern iteration* (with N. Dumitru), arXiv:2603.17105 [math.OC] (2026).
2. *Quantitative results on a generalized viscosity approximation method* (with P. Firmino), arXiv:2512.09968 [math.OC] (2025).
3. *Matching logic - a new axiomatization* (with D. Truřaş), arXiv:2506.13801 [cs.LO] (2025).
4. *Notes on applicative matching logic*, arXiv:2506.10088 [cs.LO] (2025).
5. *Barycenters in uniformly convex geodesic spaces* (with A. Nicolae and A. Zaharescu), arXiv:1609.02589 [math.MG] (2016).
6. *Proof mining in fixed point theory and ergodic theory*,
Oberwolfach Preprints OWP 2009-05, Mathematisches Forschungsinstitut Oberwolfach, Germany, 71pp (2009).
7. *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, 53pp (2003).

6 Published abstracts

1. *Proof mining and asymptotic regularity* (with P. Firmino),
2024 European Summer Meeting of the Association for Symbolic Logic, Logic Colloquium 2024, June 24-28, 2024, University of Gothenburg;

Bulletin of Symbolic Logic, Vol. 30 (2024), No. 4, 600.

2. *Proof mining and the viscosity approximation method* (with P. Firmino),
2023 European Summer Meeting of the Association for Symbolic Logic, Logic Colloquium 2023, June 5-9, 2023, University of Milan;
Bulletin of Symbolic Logic 2024, Vol. 30 (2024), No. 1, 124.
3. *Proof mining and asymptotic regularity* (with H. Cheval, P. Firmino, U. Kohlenbach and P. Pinto),
Oberwolfach Reports, Vol. 20 (2023), No. 4, European Mathematical Society Publishing House, 3030-3033.
4. *Proof theoretic methods in nonlinear analysis III. Quantitative results on Féjer monotone sequences* (with U. Kohlenbach and A. Nicolae),
Oberwolfach Reports, Vol. 11 (2014), No. 4, European Mathematical Society Publishing House, 2960-2961.
5. *Recent developments in proof mining* (with U. Kohlenbach),
Oberwolfach Reports, Vol. 8 (2011), No. 4, European Mathematical Society Publishing House, 2982-2984.
6. *Recent results in proof mining* (with U. Kohlenbach),
Oberwolfach Reports, Vol. 5 (2008), No. 2, European Mathematical Society Publishing House, 929-931.
7. *Proof mining in $CAT(0)$ -spaces and $\mathbb{R}$ -trees*,
Abstracts of Papers presented to the American Mathematical Society, Volume 28, No. 1, Issue 147, AMS, 2007, 16.
8. *Approximate fixed points of nonexpansive functions in product spaces* (with U. Kohlenbach),
Mathematics, Algorithms, Proofs, Dagstuhl Seminar Proceedings 5021 (2006), pp.1-5
Schloss Dagstuhl - Leibniz-Zentrum für Informatik.
9. *Approximate fixed point property in product spaces* (with U. Kohlenbach),
Oberwolfach Reports, Vol. 2 (2005), No. 1, European Mathematical Society Publishing House, 795-797.

7 Editing

1. Editor (together with M. Marin) of: Proceedings of the 8th Symposium on Working Formal Methods (FROM 2024), EPTCS 410, 10.4204/EPTCS.410 (2024).

2. Editor (together with H. Cheval and A. Sipos) of: Proceedings of the 7th Symposium on Working Formal Methods (FROM 2023), EPTCS 389, DOI: 10.4204/EPTCS.389 (2023).
3. 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.