

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. 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 modified Halpern and Tikhonov-Mann iterations* (with H. Cheval and U. Kohlenbach),
arXiv:2203.11003 [math.OC], 2023; accepted for publication in *Journal of Optimization Theory and Applications*
2. *Quadratic rates of asymptotic regularity for the Tikhonov-Mann iteration* (with H. Cheval),
Optimization Methods and Software, Vol. 37 (2022), No. 6, 2225-2240
3. *Quantitative results on a Halpern-type proximal point algorithm* (with P. Pinto),
Computational Optimization and Applications, Vol. 79 (2021), 101–125.
4. *On the removal of weak compactness arguments in proof mining* (with F. Ferreira and P. Pinto)
Advances in Mathematics, Vol. 354 (2019), 106728, 55p.
5. *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.
6. *An abstract proximal point algorithm* (with A. Nicolae and A. Sipoş),
Journal of Global Optimization, Vol. 72 (2018), No. 3, 553-577.
7. *Quantitative results on Fejér monotone sequences* (with U. Kohlenbach and A. Nicolae),
Communications in Contemporary Mathematics, Vol. 20 (2018), 1750015 [42 pages].

8. *A note on an alternative iterative method for nonexpansive mappings* (with A. Nicolae),
Journal of Convex Analysis, Vol. 24 (2017), No. 2, 501-503.
9. *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.
10. *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.
11. *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.
12. *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.
13. *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.
14. *An application of proof mining to nonlinear iterations*,
Annals of Pure and Applied Logic, Vol. 165 (2014), No.9, 1484-1500.
15. *Effective results on compositions of nonexpansive mappings* (with A. Nicolae),
Journal of Mathematical Analysis and Applications, Vol. 410 (2014), No. 2, 902-907.
16. *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.

17. *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*.
18. *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.
19. *Asymptotically nonexpansive mappings in uniformly convex hyperbolic spaces* (with U. Kohlenbach),
Journal of the European Mathematical Society, Vol. 12 (2010), No. 1,
71-92.
20. *Maximal residuated lattices with lifting Boolean center* (with G. Georgescu and C. Mureşan),
Algebra Universalis, Vol. 63 (2010), No. 1, 83-99.
21. *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.
22. *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*.
23. *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.

24. *A quadratic rate of asymptotic regularity in $CAT(0)$ -spaces*,
Journal of Mathematical Analysis and Applications, Vol. 325 (2007),
No. 1, 386-399.
25. *Baer extensions of BL-algebras*,
Journal of Multiple-Valued Logic and Soft Computing, Vol. 12 (2006),
No. 3-4, 321-336.
26. *Sheaf representations of BL-algebras*,
Soft Computing - A Fusion of Foundations, Methodologies and Appli-
cations, Vol. 9, No. 12 (2005), Special issue on BL-algebras, 897-909.
27. *Pseudo-hoops* (with G. Georgescu and V. Preoteasa),
Journal of Multiple-Valued Logic and Soft Computing, Vol. 11 (2005),
No. 1-2, 153-184.
28. *Compact representations of BL-algebras* (with A. Di Nola),
Archive for Mathematical Logic, Vol. 42 (2003), No. 8, 737 - 761.
29. *Mann iterates of directionally nonexpansive mappings in hyperbolic spa-
ces* (with U. Kohlenbach),
Abstract and Applied Analysis, Vol. 2003 (2003), 449-477.
30. *The prime and maximal spectra and the reticulation of BL-algebras*,
Central European Journal of Mathematics, Vol. 1 (2003), No. 3, 382-
397.
31. *Canonical models and filtrations in three-valued propositional modal
logic*,
Journal of Multiple-Valued Logic, Vol. 8 (2002), No. 1-2, 577-590.
32. *Some classes of pseudo-BL algebras* (with G. Georgescu),
Journal of Australian Mathematical Society, Vol. 73 (2002), No. 1,
127-153.
33. *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 (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.

5 Technical Reports and Preprints

1. *Linear rates of asymptotic regularity for Halpern-type iterations*, (with
H. Cheval),
<https://arxiv.org/abs/2303.05406>, 2023.
2. *Rates of asymptotic regularity for the alternating Halpern-Mann itera-
tion*, (with P. Pinto),
arXiv:2206.02226 [math.OC], 2023.
3. *Barycenters in uniformly convex geodesic spaces* (with A. Nicolae and
A. Zaharescu),
arXiv:1609.02589 [math.MG], 2016.
4. *Proof mining in fixed point theory and ergodic theory*,
Oberwolfach Preprints OWP 2009-05, Mathematisches Forschungs-
institut Oberwolfach, Germany, 2009, 71pp.
5. *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.