

6. Rezultatele cercetării desfășurate în anul 2021

Articole ISI publicate în reviste din străinătate = 31

1. **V. Barbu**, Boundary controllability of phase-transition region of a two-phase Stefan problem, *Systems & Control Letters*, 150 (2021). Doi:10.1016/j.sysconle.2021.104896. ISI. FI= 2.804; SRI= 2.217.
2. **V. Barbu**, M. Röckner, Uniqueness for nonlinear Fokker-Planck equations and weak uniqueness for McKean-Vlasov SDEs, *Stochastics and Partial Differential Equations: Analysis and Computations*, 9 (2021), 702–713. <https://doi.org/10.1007/s40072-020-00181-8>. FI=1.39.
3. **V. Barbu**, M. Röckner, The controllability of Fokker-Planck equations with reflecting boundary conditions and controllers in diffusion term, *SIAM J. Control & Optim.* 59 (1) (2021), 709-726. doi:10.1137/20M1350625. FI=4.12; SRI= 2.377.
4. **V. Barbu**, M. Röckner, Solutions for nonlinear Fokker-Planck equations with measures as initial data and McKean-Vlasov equations, *Journal of Functional Analysis*, 280 (7) (2021). Doi:10.1016/j.jfa.2021.108926. FI= 1.748; SRI=2.90.
5. **V. Barbu**, I. Ciotir, I. Danaila, Existence and uniqueness of solution to the two-phase Stefan problem with convection, *Applied Mathematics and Optimization*, 84 (suppl 1) (2021). Doi:10.1007/s00245-021-09764-w. FI= 3.582; SRI=1.560.
6. **Dorin Ieșan**, Deformation of heterogeneous microstretch elastic bars, *Journal of Mechanics of Materials and Structures* 15 (2020), 345- 359. IF=1.190, SRI=0,806 (nu a fost raportata in 2020).
7. **Dorin Ieșan**, On a strain gradient theory of porous thermoelastic solids, *Journal of Thermal Stresses*, 44:5 (2021), 597-609, DOI:10.1080/01495739.2020.1867021. IF=3.28, SRI=1,098.
8. **Dorin Ieșan**, R. Quintanilla, On the theory of chiral plates and associated system of Timoshenko-Ehrenfest type. *Mechanics of Materials*, 160 (2021), 103974. IF=3.266, SRI=1,743.
9. **Dorin Ieșan**, On the deformation of micromorphic elastic beams, *Mathematics and Mechanics of Solids*, 2021, 1–19, DOI: 10.1177/10812865211004997. FI=2.37, SRI=1,063.
10. V. Novo, **Constantin Zălinescu**, On relatively solid convex cones in real linear spaces, *J. Optim. Theory Appl.* 188 (2021), 277-290, IF 2.249, SRI 1.435.

11. **Sebastian Anița**, V. Capasso, S. Scacchi, Regional control for spatially structured mosquito borne epidemics. Part II: Computational issues, *Vietnam Journal of Mathematics* 49 (1) (2021), 189-206, DOI: 10.1007/s10013-021-00475-x, ISI. FI=0.650.
12. **Sebastian Anița**, V. Capasso, S. Scacchi, Controlling the spatial spread of a Xylella epidemic Bulletin of Mathematical Biology 83 (4) (2021), 1-26, DOI: 10.1007/s11538-021-00861-z, ISI, FI=1.758, SRI=1.29.
13. **Aurel Rășcanu**, On the maximal monotonicity of subdifferential operators, *Revue Roumaine de Mathématiques Pures et Appliquées*, tome LXVI, no. 1 (2021), 237-242. (ISI) IS=0,56.
14. Lucian Maticiuc, **Aurel Rășcanu**, L^p -Variational solutions of multivalued backward stochastic differential equations, *Control, Optimisation and Calculus of Variations*, (ESAIM-COCV), 27 (88) (2021), 73 pp., <https://doi.org/10.1051/cocv/2021083>, ISI. FI=0.833, SRI=1.730.
15. **O. Cârjă**, A. Lazu, Minimum time and minimum energy for linear systems; a variational approach, *Applied Mathematics & Optimization*, 84 (2021), 2359–2377. IF=2,369; SRI=1,560.
16. T. Chelmuș, **Marius Durea**, Stability of minimality and criticality in directional set-valued optimization problems, *Positivity*, 25 (2021), 1175-1198 , FI=1,03, SRI=0,653.
17. **Marius Durea**, D. Maxim, R. Strugariu, *Metric inequality conditions on sets and consequences in optimization*, Journal of Optimization Theory and Applications, 189 (2021), 744-771. FI=2,249, SRI=1,435.
18. M. Ait Mansour, **M. Durea**, H. Riahi, Strict directional solutions in vectorial problems: necessary optimality conditions, *Journal of Global Optimization*, DOI: 10.1007/s10898-021-01067-2 ,FI=2,207, SRI=1,251.
19. **Ciomaga Adina**, Ghilli D., Topp E., Periodic homogenization for nonlocal Hamilton-Jacobi equations at a critical diffusive regime, *Communications in Partial Differential Equations*, online, pp 1-38, (2021). ISI. FI=3.333, SRI=2,706.
20. **Ionuț Munteanu**, Boundary stabilizing actuators for multi-phase fluids in a channel, *Journal of Differential Equations* 285 (2021), 175-210, FI=2,430, SRI=2,42I.
21. **Ionuț Munteanu**, Boundary stabilization of non-diagonal systems by proportional feedback forms, *Communications on Pure and Applied Analysis* 20 (9) (2021), 3095-3110, FI=1,11, SRI=1,01.
22. **Ionuț Munteanu**, Boundary stabilizing actuators for multi-phase fluids in a channel, *Journal of Differential Equations* 285 (2021), 175-210, FI=2,430, SRI=2,42I.
23. **Ionuț Munteanu**, Boundary stabilization of non-diagonal systems by proportional feedback forms, *Communications on Pure and Applied Analysis* 20 (9) (2021), 3095-3110, FI=1,11, SRI=1,01.
24. D. Goreac, **Ionuț Munteanu**, Improved stability for linear SPDEs using mixed boundary/ internal controls, *Systems & Control Letters* 156 (2021), FI=0,87, SRI=2,01.
25. Owczarek, S., **Ionel-Dumitrel Ghiba**, Neff, P., A note on local higher regularity in the dynamic linear relaxed micromorphic model, *Mathematical Methods in the Applied Sciences*. IF= 2.321; SRI=0,823.
26. **Ionel-Dumitrel Ghiba**, Birsan, M., Lewintan, P., Neff, P., A Constrained Cosserat Shell Model up to Order $O(h(5))$: Modelling, Existence of Minimizers, Relations to Classical

- Shell Models and Scaling Invariance of the Bending Tensor, *Journal of Elasticity*. 146 (1) (2021), 83-141. IF= 2.209; SRI= 1,59.
27. Rizzi, G., Hutter, G., **Ionel-Dumitrel Ghiba**, (...); Neff, P., Analytical solution of the cylindrical torsion problem for the relaxed micromorphic continuum and other generalized continua (including full derivations), *Mathematics and Mechanics of Solids*. IF= 2.341; SRI= 1,045.
 28. Voss, J., **Ionel-Dumitrel Ghiba**, Martin, R., Neff, P., Sharp Rank-One Convexity Conditions in Planar Isotropic Elasticity for the Additive Volumetric-Isochoric Split, *Journal of Elasticity* 143 (2), 301-335. IF= 2.209; SRI= 1,59.
 29. **Ionel-Dumitrel Ghiba**, Neff, P., Owczarek, S., Existence results for non-homogeneous boundary conditions in the relaxed micromorphic model, Jan 30 2021 | Sep 2020 (Early Access), *Mathematical Methods in the Applied Sciences* 44 (2), 2040-2049. IF= 2.321; SRI=0,823.
 30. **Elena-Alexandra Melnig**, Stability in inverse source problems for nonlinear reaction-diffusion systems, *NoDEA*, 28 (4) (2021), ISI. FI=1.286, SRI=1.294.
 31. **Ştefana-Lucia Aniţa**, A stochastic optimal control problem with feedback inputs, *International Journal of Control*, <https://doi.org/10.1080/00207179.2020.1806360>. FI=2,888; SRI=1,042.

Articole non-ISI publicate în reviste din Baze de Date Internaţionale (B+) = 3

1. **Constantin Zălinescu**, On Berinde's method for comparing iterative processes, *Fixed Point Theory Algorithms Sci. Eng.* (2021) 2021:2.
2. **Sebastian Aniţa**, Reaction-diffusion systems in epidemiology, *Annals of the Alexandru Ioan Cuza of Iasi, Mathematics*, 66 (2) (2020), 171-196 (a apărut în 2021).
3. **Gabriela Liţcanu**, A brief look at the mathematical modeling of the immune response, *Analele Ştiinţifice ale Universitatii "Al. I. Cuza", Iaşi*, tom. LXVI, f.2, dec. 2020, 289-300.

Cărţi sau capitole de cărţi publicate în străinătate = 1

1. **V. Barbu**, *Semigroup Approach to Nonlinear Diffusion Equations*, World Scientific, London. Singapore. Beijing. Tokyo, 2021.

Comunicări prezentate la conferinţe internaţionale = 17

1. **Viorel Barbu**, *Asymptotic behaviour of nonlinear Fokker-Planck equations*, Conference MITRE-2021. Chisinau, 1-2 iulie 2021.
2. **Viorel Barbu**, *Exact and asymptotic behaviour of nonlinear Fokker-Planck equations*, The 10th International Conference on Stochastic Analysis and Its Applications, Kyoto, 6-10 September 2021.
3. **V. Barbu**, *Mathematical modelling in economics; its performances and limits*. GEBA 2021 (21-23 oct.).
4. **V. Barbu**, *Nonlinear Fokker-Planck equation and trend to equilibrium in statistical mechanics*.

5. **Constantin Zălinescu**, *On the role of interiority notions in convex analysis and optimization*, One World Optimization Seminar (online), University of Vienna, Austria, June 7, 2021.
6. **Constantin Zălinescu**, *On Lagrange multipliers in convex entropy minimization*, Workshop on Optimization and Operator Theory (online), Technion - Israel Institute of Technology, Haifa, Israel, November 15-17, 2021.
7. **Constantin Zălinescu**, *On relatively solid convex cones in real linear spaces*, International Conference on Variational Analysis and Nonsmooth Optimization (ICVANO 2021) (online), July 15-16, 2021.
8. **Sebastian Anița**, G. Dimitriu, *Regional control problem in reaction-diffusion equations. Applications to epidemiology*, International Scientific Conference Mathematics and IT: Research and Education, MITRE 2021, Chisinau, Republica Moldova, 01-03 July, 2021
9. **Marius Durea**, *Some issues on stability of Pareto efficiency*, International Conference on Variational Analysis and Nonsmooth Optimization (ICVANO 2021).
10. **Cătălin-George Lefter**, **Elena-Alexandra Melnig**, *Internal controllability of parabolic systems with star and tree like couplings*, Mathematics & IT: Research and Education (MITRE-2021), Chișinău, Moldova, 01–03 iulie, 2021.
11. **Cristina Stamate**, *Vector integrals with applications in mathematical economics*, CAIM 2021, 17-18 septembrie 2021 (online).
12. **Ionel-Dumitrel Ghiba**, *Modelling and existence results in the Cosserat shell theory*, The 28th Conference on Applied and Industrial Mathematics, CAIM 2021, 17-18 September, online, 2021.
13. **Adina Ciomaga**, *Homogenisation périodique pour les équations de Hamilton Jacobi nonlocales superlineaires*, Seminarul de Analiză și EDP, Institut National des Sciences Appliquées Rouen, Normandie, Normandie Université, 14.12.2021.
14. **Adina Ciomaga**, Participare online la conferința *Durham Analysis and PDE online summer school*, Department of Mathematical Sciences Durham University, UK, 01-06.07.2021. <https://www.maths.dur.ac.uk/users/djoko.wirosoetisno/dda21p.html>.
15. **Adina Ciomaga**, Participare online la conferința *Multi-Scale Analysis*, International Center for Theoretical Sciences, TATA Institute for Fundamental Research, Bengaluru, India, 15-19.02.2021. <https://www.icts.res.in/discussion-meeting/mathlec2021/talks>
16. **Cristina Stamate**, *The core-Walras equivalence in nonadditive economies*, MITRE 2021, 1-3 iulie Chisinau (online).
17. **Ștefana-Lucia Anița**, *Optimal Control Problem for McKean-Vlasov Stochastic Equation*, The 10th International Conference on Stochastic Analysis and its Applications (10th ICSAA), Kyoto University (Japan), 6-10 September 2021.

Comunicări prezentate la manifestări/seminarii/conferințe naționale = 18

1. **Marius Durea**, *Directional regularity and Lim's lemma*, Zilele Academice Iașene, Sesiunea de comunicări științifice a Institutului de Matematică Octav Mayer, 30 oct. 2021.
2. **Constantin Zălinescu**, *New proofs for some results on spherically convex sets*, Zilele Academice Iașene, Sesiunea de comunicări științifice a Institutului de Matematică Octav Mayer, 30 oct. 2021.

3. **Aurel Rășcanu**, *Backward stochastic differential equations – martingale approach*. Zilele Academice Iașene, Sesiunea de comunicări științifice a Institutului de Matematică Octav Mayer, 30 oct. 2021.
4. **Ovidiu Cârjă**, *Problema normei minime pentru sisteme liniare de control*. Workshop: *Automatică teoretică și teoria controlului*, Filiala Iași a Academiei Române, 28 iunie 2021.
5. **Sebastian Anița**, *Zero-stabilizability for space-structured populations with regional control*, Workshop: *Automatica Teoretica si Teoria Controlului Optimal*, Academia Romana, Filiala Iasi, Iasi, 28 mai 2021.
6. **Sebastian Anița**, V. Capasso, *A mathematical model for Xylella Fastidiosa*, Zilele Academice Iașene, Sesiunea de comunicări științifice a Institutului de Matematică Octav Mayer, 30 oct. 2021.
7. **Cristina Stamate**, *Vector equilibrium problems and applications*, Zilele Academice Iașene, Sesiunea de comunicări științifice a Institutului de Matematică Octav Mayer, 30 oct. 2021.
8. **Adrian Zălinescu**, *Modelarea proceselor de atentie prin EDS retrograde cu intarziere*. Zilele Academice Iașene, Sesiunea de comunicări științifice a Institutului de Matematică Octav Mayer, 30 oct. 2021.
9. **Gabriela Lițcanu**, *Dinamica propagării în sisteme de reacție-convecție-difuzie*, Zilele Academice Iașene, Sesiunea de comunicări științifice a Institutului de Matematică Octav Mayer, 30 oct. 2021.
10. **Ionel-Dumitrel Ghiba**, *A new Cosserat shell model: modelling and existence of the solution*, 20-21 mai 2021, a zecea editie a Workshop for Young Researchers in Mathematics. Workshopul este organizat in colaborare cu Institutul de Matematica "Simion Stoilow" (IMAR) si Facultatea de Matematica si Informatica a Univeristatii "Ovidius" din Constanta, online
11. **Ionel-Dumitrel Ghiba**, *Existență și unicitate pentru problema propagării undelor seismice în medii cu microstructură*, Zilele Academice Iașene, Sesiunea de comunicări științifice a Institutului de Matematică Octav Mayer, 30 oct. 2021.
12. **Ionuț Munteanu**, *Backstepping vs Direct-Proportional control design techniques*, Zilele Academice Iașene, Sesiunea de comunicări științifice a Institutului de Matematică Octav Mayer, 30 oct. 2021.
13. **T. Havârneanu, C. Popa**, *A splitting approximation scheme for the Navier-Stokes equations*, Zilele Academice Iașene, Sesiunea de comunicări științifice a Institutului de Matematică Octav Mayer, 30 oct. 2021.
14. **Elena-Alexandra Melnig**, *Stability in inverse source problems for nonlinear reaction-diffusion systems*, Zilele Universității, 29 octombrie 2021.
15. **Cătălin-George Lefter, Elena-Alexandra Melnig**, *Stability in inverse source problems for reaction-diffusion systems with boundary observations*. Zilele Academice Iașene, Sesiunea de comunicări științifice a Institutului de Matematică Octav Mayer, 30 oct. 2021.
16. **Ștefana-Lucia Anița**, *An optimal control problem related to a non-linear Fokker-Planck equation*, Young Researchers Workshop, SPSR, Bucuresti, 19 Noiembrie 2021.
17. **Ștefana-Lucia Anița**, *Feedback Control for a SDE*, IMAR, București, 21 Mai 2021.
18. **Ștefana-Lucia Anița**, *Controlul ecuatiilor diferentiale stochastice*, IMAR, Bucuresti, 20 aprilie 2021.

Lucrări în pregătire/elaborate/trimise spre publicare/acceptate = 33

1. **V. Barbu**, *The evolution to equilibrium of solutions to nonlinear Fokker-Planck equation.*
2. **V. Barbu**, *Feedback controllability of nonlinear Fokker-Planck equations.*
3. **V. Barbu**, M. Rockner *Nonlinear Fokker-Planck equations with time-dependent coefficients.*
4. **V. Barbu**, *Mathematical modelling in economics, its performances and limits.*
5. **V. Barbu**, *Variational approach to nonlinear stochastic differential equations in Hilbert spaces.*
6. **V. Barbu**, *The vorticity flow and generalized Fokker-Planck equation in $\mathbf{R}^2$.*
7. **V. Barbu**, M. Rockner, *The invariance principle for nonlinear Fokker-Planck equations.*
8. **V. Barbu**, M. Rockner, *Asymptotic controllability of nonlinear Fokker-Planck equations.*
9. **V. Barbu**, M. Rockner, *The existence and uniqueness of nonlinear Fokker-Planck flows.*
10. **C. Zălinescu**, *New proofs for some results on spherically convex sets.*
11. **Aurel Rășcanu**, Eduard Rotenstein, *Backward stochastic dynamics driven by an unbounded subdifferential operator - martingale approach.*
12. **Sebastian Anița**, M. Banerjee, S. Ghosh, V. Volpert, *Vaccination in a two-group epidemic model.*
13. **M. Durea**, R. Strugariu, *Directional Lim's lemma and applications.*
14. **Cătălin-George Lefter**, *Unique continuation properties for Schrödinger type operators.*
15. **Cătălin-George Lefter**, *Unique continuation and approximate internal controllability for parabolic problems involving fractional Laplacean.*
16. **Cătălin-George Lefter**, **Bianca Aramă**, *Unique continuation at initial time for Ginzburg-Landau equation with boundary observation.*
17. **Cătălin-George Lefter**, **Elena-Alexandra Melnig**, *Stability in inverse source problems for reaction-diffusion systems with boundary observations.*
18. U.De Maio, R. Hadiji, C. Perugia and **C.Lefter**, *A Liouville type result and quantization effects on a Ginzburg-Landau type equation with a potential convex near zero.*
19. **Cristina Stamate**, *About the weak efficiencies in vector optimization*, trimisa spre publicare ca si capitol de carte in Current topics on Mathematics and Computer Sciences.
20. **Cristina Stamate**, *Vector equilibrium problems. An unified approach*, trimisa spre publicare in *Journal of Aplied Mathematics and Computation.*
21. **Cristina Stamate**, Anca Croitoru, *The Aumann-Pettis-Sugeno integral of vector multifunctions relative to a fuzzy vector measure*, acceptata spre publicare in *Fuzzy sets and systems.*
22. **Cristina Stamate**, *Vector integrals with applications in mathematical economics.*
23. **Cristina Stamate**, *Aplications of Vector equilibrium problems for abstract economies.*

24. L. Di Persio, L. Matciuc, **Adrian Zălinescu**, *Continuity with respect to parameters of the solutions of time-delayed BSDEs with Stieltjes integral*, trimisa spre publicare in Stoch. Process. Appl.
25. L. Di Persio, M. Garbelli, **A. Zălinescu**, *Feynman-Kac formula for BSDEs with jumps and time-delayed generators associated to path-dependent nonlinear Kolmogorov equations*
26. L. Di Persio, M. Patacca, **A. Zălinescu**, *Market attention modeling: option pricing via utility maximization and time-delayed BSDEs*
27. **Gabriela Lițcanu**, *Front propagation dynamics in a reaction-diffusion-advection system (lucrare ce urmează a fi trimisă spre publicare).*
28. **Gabriela Lițcanu**, *Turing pattern formation in a reaction-diffusion system (lucrare elaborată, urmează a fi trimisă spre publicare).*
29. **Adina Ciomaga**, Buy K., *MBO Scheme for Local Chan-Vese Segmentation*, Image Processing On Line, submitted.
30. **Adina Ciomaga**, Ley O., Topp E., *Lipschitz regularity and classical solutions for superlinear integro-differential equations*, in progress.
31. **Cătălin Popa**, *Controllability of the three-dimensional magnetohydrodynamic equations with three scalar control functions.*
32. **Ionuț Munteanu**, *Boundary input control for differential equations with delay.*
33. **Ștefana-Lucia Anița**, *Optimal Control of Stochastic Differential Equations via Fokker-Planck Equations.*

Granturi derulate prin institut

Stagii de cercetare-documentare

1. **Ciomaga Adina-Giorgiana**, Université de Paris – Diderot, Paris, Franța, 16 septembrie - 23 octombrie 2021.
2. **Viorel Barbu**, Universitatea din Bielefeld, 28 octombrie - 30 noiembrie 2021.

Premii

Manifestări științifice organizate de institut = 4

1. *International Workshop „Current Trends in Applied Mathematics”, 20 noiembrie 2021, organizat de Institutul de Matematică Octav Mayer Iasi în colaborare cu Institutul de Statistică Matematică și Matematică Aplicată „Gheorghe Mihoc – Caius Iacob” București (online Zoom meeting).*
2. *Sesiunea de comunicări științifice a Institutului de Matematică Octav Mayer și a Comisiei de Automatică Teoretică și Teoria Controlului, 30 octombrie 2021, cu prilejul Zilelor Academice Iașene (online Zoom meeting).*
3. *Workshop: Automatică teoretică și teoria controlului, organizat împreună cu Comisia de Automatică Teoretică și Teoria Controlului, Filiala Iași a Academiei Române, 28 iunie 2021 (online Zoom meeting).*
4. *Workshop for Young Researchers in Mathematics, 20-21 mai 2021, organizat în colaborare cu Institutul de Matematică „Simion Stoilow” și Facultatea de Matematică și Informatică din cadrul Universității „Ovidius” din Constanța (online Zoom meeting).*

Citări = 792 (cf. WoS), 2238 (cf. Google Academic)

	Web of Science	Google Academic
1. Barbu V.	157	1005
2. D. Ieșan	178	178
3. Zălinescu C.	66	431
4. Anița Sebastian	64	101
5. Cârjă O.	50	32
6. Durea M.	58	64
7. Lefter C.-G.	8	19
8. Rășcanu A.	62	91
9. Ciomaga A.	14	30
10. Havârneanu T.	1	6
11. Lițcanu G.	10	10
12. Munteanu I.	9	35
13. Popa C.	3	6
14. Stamate C.	1	3
15. Zălinescu Adrian	2	9
16. Ghiba I.-D.	107	216
17. Melnig E.-A.	1	1
18. Anița S.-L.	1	1

DIRECTOR,


Prof.dr. Cătălin-George Lefter