

6. Rezultatele cercetării desfășurate în anul 2021

Articole ISI publicate în reviste din străinătate = 30

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. 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.

10. **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.
11. **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.
12. **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.
13. 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.
14. **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.
15. 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.
16. **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.
17. 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.
18. **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.
19. **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.
20. **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.
21. **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.
22. **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.
23. 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.
24. 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.
25. **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.

26. 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.
27. 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.
28. **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.
29. **Elena-Alexandra Melnig**, Stability in inverse source problems for nonlinear reaction-diffusion systems, *NoDEA*, 28 (4) (2021), ISI. FI=1.286, SRI=1.294.
30. **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**, *Homogeneisation 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.wirosuetisno/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 ICSSA), 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 atenție prin EDS retrograde cu întârziere*. 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 = 34

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 87~nonlinear Fokker-Planck equations.*
9. **V. Barbu**, M. Rockner, *The existence and uniqueness of nonlinear Fokker-Planck flows.*
10. **D. Ieşan**, *On the deformation of micromorphic elastic beams.*
11. **C. Zălinescu**, *New proofs for some results on spherically convex sets.*
12. **Aurel Răşcanu**, Eduard Rotenstein, *Backward stochastic dynamics driven by an unbounded subdifferential operator - martingale approach.*
13. **Sebastian Aniţa**, M. Banerjee, S. Ghosh, V. Volpert, *Vaccination in a two-group epidemic model.*
14. **M. Durea**, R. Strugariu, *Directional Lim's lemma and applications.*
15. **Cătălin-George Lefter**, *Unique continuation properties for Schrödinger type operators.*
16. **Cătălin-George Lefter**, *Unique continuation and approximate internal controllability for parabolic problems involving fractional Laplacean.*
17. **Cătălin-George Lefter**, **Bianca Aramă**, *Unique continuation at initial time for Ginzburg-Landau equation with boundary observation.*
18. **Cătălin-George Lefter**, **Elena-Alexandra Melnig**, *Stability in inverse source problems for reaction-diffusion systems with boundary observations.*
19. 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.*
20. **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.
21. **Cristina Stamate**, *Vector equilibrium problems. An unified approach*, trimisa spre publicare in *Journal of Aplied Mathematics and Computation.*
22. **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.*
23. **Cristina Stamate**, *Vector integrals with applications in mathematical economics.*
24. **Cristina Stamate**, *Aplications of Vector equilibrium problems for abstract economies.*

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