6. Rezultatele cercetării desfăşurate în anul 2020

Articole ISI publicate în reviste din străinătate = 29

1. **V. Barbu**, Optimal feedback controllers for a stochastic differential equation with reflection, *SIAM J. Control Optim.*, 58(2) (2020), 986-997. ISI. FI=2.300; SRI=2.064.
2. **V. Barbu,** M. Röckner, D. Zhang, Optimal control of nonlinear stochastic differential equations on Hilbert spaces, *SIAM J. Control Optim.*, 58 (4) (2020), 2383-2410. ISI. FI=2.300; SRI=2.064.
3. **V. Barbu**, M. Röckner, From nonlinear Fokker-Planck equations to solution distribution dependent SDE, *The Annals of Probability,* 48 (4) (2020), 1902-1920. ISI. FI=2.085; SRI=3.915.
4. **V. Barbu,** M. Röckner, Uniqueness for nonliner Fokker-Planck equations and weak uniqueness for McKean-Vlasov SDEs, *Stoch. PDE: Anal. Comp.*, https;//doi.org/10.1007/ s40072-020-00181-8. ISI. FI=1.390.
5. **Dorin Ieşan**, A gradient theory of porous elastic solids. *Z. Angew. Math. Mech.,* 2020; e201900241. FI=1.103, SRI=1.011.
6. **Dorin Ieşan,** Deformation of beams in the grade consistent theory of microstretch elastic solids, *Acta Mechanica*, 231 (2020), 1351- 1363. ISI. FI=2.102, SRI=1.009.
7. **Dorin Ieşan,** Thermal stresses in orthotropic Cosserat elastic cylinders, *Journal of Thermal Stresses*, 43:3 (2020), 321-335. ISI. FI =2.626, SRI=0.983.
8. **Dorin Ieşan,** Generalized plane strain of chiral elastic solids, *Mechanics Research Communications,* 107 (2020) 103564. ISI. FI =2.282, SRI=1.081.
9. **Constantin Zălinescu**, A Hamel, C. Zalinescu, Minimal element theorems revisited, *J. Math. Anal. Appl.*, 486(2) (2020), 123935 DOI: 10.1016/j.jmaa.2020.123935. ISI. FI=1.220, SRI=1.164.
10. **Constantin Zălinescu**, On the global shape of convex functions on locally convex spaces, *J. Math. Anal. Appl.*, 488(2) (2020) 124109 DOI: 0.1016/j.jmaa.2020.124109. FI=1.220, SRI=1.164.
11. **Constantin Zălinescu**, On quadratically constrained quadratic optimization problems and canonical duality theory, *Optim. Lett.,* 14 (2020), 2227-245 DOI: 10.1007/s11590-020-01548-5. FI=1.502, SRI=0.948.
12. **Sebastian Aniţa,** A.-M. Mosneagu, Optimal harvesting for age-structured population dynamics with size-dependent control, *Mathematical Control and Related Fields,* 9 (4) (2019), 607-621, DOI: 10.3934/mcrf.2019043, December 2019. ISI. FI=1.46, SRI= 1.022.
13. **Sebastian Aniţa**, A.-M. Mosneagu, Optimal harvesting for size-dependent control, *Vietnam Journal of Mathematics*, 47 (4) (2019), 881-895, DOI: 10.1007/s10013-019-00370-6, online 14 November 2019. ISI. FI=0.650.

14. **Sebastian Anița**, V. Capasso, Regional control for spatially structured mosquito borne epidemics. Malaria as a working example, *Vietnam Journal of Mathematics*, (2020), DOI: 10.1007/s10013-020-00395-2, online 28 March 2020. ISI. FI=0.650.

15. T. Donchev, S. Bilal, **Ovidiu Cârjă**, N. Javaid, A. Lazu, Evolution inclusions in Banach spaces under dissipative conditions, *Mathematics,* 8(5) (2020), https://doi.org/10.3390/math8050750. ISI. FI=1,747; SRI=0,422.

16. **Ovidiu Cârjă**, A. Lazu, Minimum time and minimum energy for linear systems; a variational approach, *Applied Mathematics & Optimization*, (2020) https://doi.org/10.1007/s00245-020-09715-x ISI. FI=2,369; SRI=1,560.

17. **Ovidiu Cârjă**, A. Lazu, Minimum time and minimum energy for linear control systems, *Systems & Control Letters,* 137, (2020), https://doi.org/10.1016/j.sysconle.2020.104629. ISI. FI=2,762; SRI=2,217.

18. **Marius Durea,** Optimality Conditions for Approximate Pareto Minimality, *Numerical Functional Analysis and Optimization*, 41 (2020), 883-900. ISI. (FI=0,896; SRI=0,733).

19. **Marius Durea,** R. Strugariu, On the sensitivity of Pareto efficiency in set-valued optimization problems, *Journal of Global Optimization*, 78 (2020), 581-596. ISI. FI=1,805; SRI=1,382.

20. F. Cordoni, L. Di Persio, L. Maticiuc, **Adrian Zălinescu**, A stochastic approach to path-dependent nonlinear Kolmogorov equations via BSDEs with time-delayed generators and applications to finance, *Stoch. Process. Appl.*, 130(2020), 1669-1712. ISI. FI=1,414, SRI=1,553.

21. M.V. d'Agostino, G. Barbagallo, **Ionel-Dumitrel Ghiba**, B. Eidel, P. Neff, A. Madeo, Effective description of anisotropic wave dispersion in mechanical band-gap metamaterials via the relaxed micromorphic model, *Journal of Elasticity*, 139 (2020), 299–329. ISI. FI=2.120, SRI=2.030.

22. **Ionel-Dumitrel Ghiba**, M. Birsan, P. Lewintan, P. Neff. The isotropic Cosserat shell model including terms up to $O(h^5)$. Part II: Existence of minimizers, accepted, *Journal of Elasticity*, first online https://doi.org/10.1007/s10659-020-09795-4, 2020. ISI. FI=2.120, SRI=2.030.

23. **Ionel-Dumitrel Ghiba**, M. Birsan, P. Lewintan, P. Neff. The isotropic Cosserat shell model including terms up to $O(h^5)$. Part I: Derivation in matrix notation, *Journal of Elasticity*, first online https://doi.org/10.1007/s10659-020-09796-3, 2020. ISI. FI=2.120, SRI=2.030.

24. R.J. Martin, J. Voss, **Ionel-Dumitrel Ghiba**, O. Sander, P. Neff, The quasiconvex envelope of conformally invariant planar energy functions in isotropic hyperelasticity, *Journal of Nonlinear Science*, first online https://doi.org/10.1007/s00332-020-09639-4, 2020. ISI. FI=1.08.

25. **Ionel-Dumitrel Ghiba**, P. Neff, S. Owczarek, Existence results for non-homogeneous boundary conditions in the relaxed micromorphic model, *Math. Method. Appl. Sci.*, first online https://doi.org/10.1002/mma.6913, 2020. ISI. FI=2.860.

26. **Ionuț Munteanu**, Exponential stabilization of the semilinear heat equation with nonlocal boundary conditions, *Journal of Mathematical Analysis and Applications,* 492 (2) (2020), ISI. FI=1,22, SRI=1,164.

27. **Ionuț Munteanu**, M. Rockner, Global solutions for random vorticity equations perturbed by gradient dependent noise, in two and three dimensions, Journal of Evolution Equations 20(3) (2020), 1173-1194. ISI. FI=1,18, SRI=1,48.

28. **Ionuț Munteanu**, Design of boundary stabilizers for the non-autonomous cubic semilinear heat equation driven by a multiplicative noise, *Evolution Equations and control Theory*, 9 (3) (2020), 795-816. ISI. FI= 1,080; SRI=0,942.
29. **Elena-Alexandra Melnig**, Internal feedback stabilization for parabolic systems coupled in zero or first order terms, *Evolution Equations and Control Theory*, doi: 10.3934/ eect.2020069, ISI. FI=1.080; SRI:0.942.

Articole non-ISI publicate în reviste din Baze de Date Internaționale (B+)= 2

1. T. Chelmuș, **Marius Durea,** Exact penalization and optimality conditions for constrained directional Pareto efficiency, *Pure and Applied Functional Analysis*, 5 (2020), 533-553.
2. **Cătălin-George Lefter, Elena-Alexandra Melnig,** On the parabolic regularity, Sobolev embeddings and global Carleman estimates in $L^q(L^p)$ spaces, *Pure and Applied Functional Analysis*, 5 (2020), 533-553.

Cărți sau capitole de cărți publicate în străinătate = 1

1. **Sebastian Aniţa**, V. Capasso, M. Lipnicka, A. Nowakowski, A shape optimisation problem concerning the regional control of a class of spatially structured epidemics - sufficiency conditions, in ``Current Trends in Dynamical Systems in Biology and Natural Sciences" (Eds. M. Aguiar, C. Braumann, B. Kooi, A. Pugliese, N. Stollenwerk, E. Venturino), SEMA SIMAI Springer Series, vol 21. Springer, Cham (2020). 165-183, DOI: 10.1007/978-3-030-41120-6_9, online 7 May, ISBN 978-3-030-41119-0.

Comunicări prezentate la conferinţe internaţionale = 6

1. **Viorel Barbu**, Boundary controllability of phase-transition region of a two-phase Stefan problem, „Current Trends in Applied Mathematics", Workshop, Online Zoom Meeting, 21-22 septembrie 2020.
2. **Constantin Zălinescu,** *On the global shape of convex functions on locally convex spaces,* „Current Trends in Applied Mathematics", Workshop, Online Zoom Meeting, 21-22 septembrie 2020.
3. **Marius Durea**, *Metric conditions on sets applied to constraint systems,* „Current Trends in Applied Mathematics", Workshop, Online Zoom Meeting, 21-22 septembrie 2020.
4. **Adina Ciomaga,** *Stochastic homogenization of interfaces,* „Current Trends in Applied Mathematics", Workshop, Online Zoom Meeting, 21-22 septembrie 2020.
5. **Adina Ciomaga,** *Calculus of Variations, Homogenization and Disorder,* Participare online la conferinta *MIT 2020, 31.08.-3.09.2020, University of Minessota.* https:// cse.umn.edu/wave/mit-2020-calculus-variations-homogenization-and-disorder.
6. **Cristina Stamate,** *Core-Walras equivalence on nonadditive economies*, 6-th International Conference on Fuzzy Logic Systems, 2020, Sydney, Australia.

Comunicări prezentate la conferinţe naţionale = 18

1. **Dorin Ieşan,** *Asupra deformarii cilindrilor micromorfi*, Zilele Academice Ieşene, Sesiunea stiintifica a Institutului de Matematica Octav Mayer, 17 oct. 2020.
2. **Constantin Zălinescu**, *Asupra conurilor convexe cu interior algebric relativ nevid in spatii liniare reale.*, Zilele Academice Ieşene, Sesiunea stiintifica a Institutului de Matematica Octav Mayer, 17 oct. 2020.
3. **Cătălin-George Lefter, Elena-Alexandra Melnig**, *Controlabilitatea exactă a sistemelor parabolice cu un singur control intern şi cu cuplaje de tip arbore*, Zilele Academice Ieşene, Sesiunea stiintifica a Institutului de Matematica Octav Mayer, 17 oct. 2020.
4. **Marius Durea**, *Strict directional solutions in vectorial problems*, Zilele Academice Ieşene, Sesiunea stiintifica a Institutului de Matematica Octav Mayer, 17 oct. 2020.
5. **Aurel Răşcanu**, *Abordare martingală a inecuaţiilor variaţionale stochastice retrograde*, Zilele Academice Ieşene, Sesiunea stiintifica a Institutului de Matematica Octav Mayer, 17 oct. 2020.
6. **Ovidiu Cârjă**, *Problema normei minime pentru sisteme nul controlabile*, Zilele Academice Ieşene, Sesiunea stiintifica a Institutului de Matematica Octav Mayer, 17 oct. 2020.
7. **Ovidiu Cârjă**, *Despre norma minima pentru sisteme infinit dimensionale*, Zilele Universitatii Al. I. Cuza din Iasi, octombrie 2020.
8. **Sebastian Aniţa**, *Control regional în dinamica populaţiei*, Zilele Academice Ieşene, Sesiunea stiintifica a Institutului de Matematica Octav Mayer, 17 oct. 2020.
9. **Cristina Stamate,** *The Core-Walras equivalence in economies with infinite dimensional space of agents and commodities*, Zilele Academice Ieşene, Sesiunea stiintifica a Institutului de Matematica Octav Mayer, 17 oct. 2020.
10. **Adrian Zălinescu**, *Parameter dependence of time–delayed generalized BSDEs*, Workshop in the frame of annuals meetings "Alexandru Ioan Cuza" University days (Iaşi, Romania), dedicated to the 70th anniversary of Professor Aurel Rascanu, 30 oct. 2020.
11. **Gabriela Liţcanu**, *Dinamica unor modele epidemiologice*, Zilele Academice Ieşene, Sesiunea stiintifica a Institutului de Matematica Octav Mayer, 17 oct. 2020.
12. **A. Ciomaga**, *Omogenizare periodica pentru ecuatii integro-diferentiale de tip Levy-Ito,* Seminarul stiintific al Institutului de Matematica Octav Mayer, Fililala Iasi a Acadmiei Romane, 6.01.2020.
13. **Ionel-Dumitrel Ghiba**, *Un nou model matematic pentru pânze elastic*, Zilele Academice Ieşene, Sesiunea stiintifica a Institutului de Matematica Octav Mayer, 17 oct. 2020.
14. **Ionuţ Munteanu,** *Improved Stability for Linear SPDEs Using Mixed Boundary/Internal Controls,* Zilele Academice Ieşene, Sesiunea stiintifica a Institutului de Matematica Octav Mayer, 17 oct. 2020.
15. **Elena-Alexandra Melnig,** *Controlabilitate aproximativă şi unică continuare pentru sisteme de ecuatii parabolice in termenii de ordinul întâi*, Zilele Academice Ieşene, Sesiunea stiintifica a Institutului de Matematica Octav Mayer, 17oct. 2020.
16. **Stefana-Lucia Aniţa,** *Control optimal pentru ecuaţii diferenţiale stochastice si ecuaţii Kolmogorov asociate*, Zilele Academice Ieşene, Sesiunea stiintifica a Institutului de Matematica Octav Mayer, 17 oct. 2020.

17. **Stefana-Lucia Aniţa,** *Optimal control for SDEs with feedback inputs and related Kolmogorov equations, Atelier de travail en Stochastique et EDP*, Institutul de Matematică „Simion Stoilow" al Academiei Romane, Bucharest, 20-21 octobre 2020.
18. **Stefana-Lucia Aniţa,** *O problema de control optimal stochastic cu comanda de tip feedback*, Seminarul ştiintific al Institutului de Matematica O. Mayer, Iasi, 3 februarie 2020.

Lucrări elaborate/acceptate/trimise spre publicare = 22

1. **Viorel Barbu,** *The controllability of Fokker-Planck equations with reflecting boundary conditions and controllers in diffusion term.*
2. **Viorel Barbu,** *Boundary controllability of phase-transition region of a two-phase Stefan problem.*
3. **Viorel Barbu,** M. Röckner, *Solutions for nonlinear Fokker-Planck equations with measures as initial data and McKean-Vlasov equations.*
4. **Viorel Barbu**, M. Rockner, *The evolution to equilibrium of solutions to nonliner Fokker-Planck equations.*
5. **Cătălin-George Lefter, Elena-Alexandra Melnig,** *Internal controllability of parabolic systems with star and tree like couplings*, submitted to *Applied Mathematics and Optimization.*
6. Lucian Maticiuc, **Aurel Răşcanu**, *L^p-Variational Solutions of Multivalued Backward Stochastic Differential Equations,* Accepted to be published in *ESAIM: Control, Optimization and Calculus of Variations.* SRI: 2,086.
7. **Aurel Răşcanu**, Eduard Rotenstein, *Backward stochastic dynamics driven by an unbounded subdifferential operator on a filtered probability space.*
8. **Sebastian Aniţa**, V. Capasso, S. Scacchi, *Regional control for spatially structured mosquito borne epidemics. Part II: Computational issues*, trimisă spre pubicare.
9. **Cristina Stamate,** *Core-Walras equivalence on economies with infinite-dimensional space of agents and commodities.*
10. **Cristina Stamate,** *About the Edgewoth conjecture for nonadditive economies.*
11. **Cristina Stamate,** *Existence of Walrasian eqilibrium for an abstract economy.*
12. 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.*
13. **Gabriela Liţcanu**, *A brief look at the mathematical modeling of the immune response* (lucrare trimisă spre publicare).
14. **Gabriela Liţcanu,** *Travelling wave solutions for a class of reaction diffusion systems* (lucrare elaborată, urmează a fi trimisă spre publicare).
15. K. Bui, **Adina Ciomaga,** *An Application of the MBO Scheme for Local Chan-Vese Segmentation,* (preprint cu submitere IPOL in pregatire).
16. **Adina Ciomaga,** D. Ghilli, E. Topp, *Periodic Homogenization for Weakly Elliptic Hamilton-Jacobi-Bellman Equations with Critical Fractional Diffusion* (ArXiv https://arxiv.org/abs/2002.09252, submis la CPDE).

17. **Teodor Havârneanu, Cătălin-George Popa**, *Exact internal controllability of the three-dimensional magnetohydrodynamic equations with five or four scalar control functions,* (în curs de evaluare la *J. Math. Pures Appl.*).
18. S. Owczarek, **Ionel-Dumitrel Ghiba**, P. Neff, *A note on local higher regularity in the dynamic linear relaxed micromorphic model,* submitted, 2020.
19. R.J. Martin, J. Voss, **Ionel-Dumitrel Ghiba**, P. Neff, *Quasiconvex relaxation of isotropic functions in incompressible planar hyperelasticity*, in print, Proceedings of the Royal Society of Edinburgh, Section: A Mathematics, 150: 2620-2631, 2020.
20. J. Voss, **Ionel-Dumitrel D. Ghiba**, R.J. Marin, P. Neff. *Sharp rank-one convexity conditions in planar isotropic elasticity for the additive volumetric-isochoric split*, arXiv: 2008.04188 , 2020.
21. **Ionuț Munteanu**, D. Goreac, *Improved Stability for SPDEs Using Mixed Boundary/ Internal Controls.*
22. **Ștefana-Lucia Anița,** *A stochastic optimal control problem with feedback inputs*, va apărea.

Granturi derulate prin institut

Stagii de cercetare-documentare

Premii

Manifestări ştiinţifice organizate de institut = 2

1. **Sesiunea de comunicări** a Institutului de Matematică Octav Mayer şi a Comisiei de automatică teoretică şi teoria controlului, 14 octombrie 2020, cu prilejul Zilelor Academice Ieşene.

2. *International Workshop „Current Trends in Applied Mathematics", 21-22 septembrie 2020, online Zoom meeting,* organizat de Institutul de Matematică Octav Mayer Iasi în colaborare cu Institutul de Statistică Matematică și Matematică Aplicată „Gheorghe Mihoc – Caius Iacob" Bucuești.

Citări = 1992

1. V. Barbu: 847
2. C. Zălinescu: 387
3. D. Ieşan: 160
4. C. G. Lefter: 22
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6. A. Răşcanu: 102
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13. Adina Ralea   27
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15. I. Munteanu: 23

DIRECTOR,

Prof.dr. Cătălin-George Lefter