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RECTORATUL

## Universitatea Babeș-Bolyai Competiția Excelenței 2010

### Dosar individual

**Notă: Toate datele se referă la perioada 2005-2009**

Nume, prenume, grad did.	KRISTALY ALEXANDRU, CONFERENȚIAR UNIVERSITAR
Facultatea, Catedra	Facultatea de Științe Economice și Gestiunea Afacerilor, Catedra de Administrarea Afacerilor
Domeniul științific	MATEMATICA
Adresa paginii web personale	<a href="http://econ.ubbcluj.ro/cv.php?id=240">http://econ.ubbcluj.ro/cv.php?id=240</a> (pe site-ul Facultatii )
Adresa e-mail	<a href="mailto:alexandrukristaly@yahoo.com">alexandrukristaly@yahoo.com</a>

### Criteriul I – Output

#### 1. Articole științifice publicate în reviste indexate ISI (cu factorul de impact): **27 articole ISI**

- ISI-1. **Kristály Alexandru**, Asymptotically critical problems on higher-dimensional spheres, *Discrete Cont Dyn Systems* 23(3), 2009, p. 919-935. [doi: 10.3934/dcds.2009.23.919](https://doi.org/10.3934/dcds.2009.23.919). IF: **0.889**
- ISI-2. **Kristály Alexandru**, Varga Csaba, Multiple solutions for a degenerate elliptic equation involving sublinear terms at infinity, *J Math Anal Appl* 352(1), 2009, p. 139-148. [doi:10.1016/j.jmaa.2008.03.025](https://doi.org/10.1016/j.jmaa.2008.03.025) IF: **1.046**
- ISI-3. **Kristály Alexandru**, Papageorgiou Nikolaos, Multiplicity theorems for semilinear elliptic problems depending on a parameter, *P Edinburgh Math Soc* 52(1), 2009, p. 171-180. [doi:10.1017/S0013091507000665](https://doi.org/10.1017/S0013091507000665). IF: **0.607**
- ISI-4. **Kristály Alexandru**, Radulescu Vicentiu, Sublinear eigenvalue problems on compact Riemannian manifolds with applications in Emden-Fowler equations, *Studia Mathematica* 191(3), 2009, p. 237-246. [doi:10.4064/sm191-3-5](https://doi.org/10.4064/sm191-3-5). IF: **0.398**
- ISI-5. **Kristály Alexandru**, Mihăilescu Mihai, Radulescu Vicentiu, Two nontrivial solutions for a non-homogeneous Neumann problem: an Orlicz-Sobolev space setting, *P Royal Soc Edinb – Section A* 139, 2009, p. 367-379. [doi:10.1017/S030821050700025X](https://doi.org/10.1017/S030821050700025X) IF: **0.770**
- ISI-6. **Kristály Alexandru**, Lazar Ioana, Papageorgiou Nikolaos, A variational inequality on the half line, *Nonlinear Analysis-TMA* 71(10), 2009, p. 5003-5009. [doi:10.1016/j.na.2009.03.077](https://doi.org/10.1016/j.na.2009.03.077) IF: **1.295**

- ISI-7. Filippakis Michael, **Kristály Alexandru**, Papageorgiou Nikolaos, Existence of five nonzero solutions with exact sign for a p-Laplacian equation, *Discrete Cont Dyn Systems* 24(2), 2009, p. 405-440. [doi: 10.3934/dcds.2009.24.405](https://doi.org/10.3934/dcds.2009.24.405) IF: **0.889**
- ISI-8. **Kristály Alexandru**, Detection of arbitrarily many solutions for perturbed elliptic problems involving oscillatory terms, *J Differential Equations* 245(12), 2008, p. 3849-3868. [doi:10.1016/j.jde.2008.05.014](https://doi.org/10.1016/j.jde.2008.05.014) IF: **1.349**
- ISI-9. **Kristály Alexandru**, Lisei Hannelore, Varga Csaba, Multiple solutions for p-Laplacian type equations, *Nonlinear Anal-TMA* 68(5), 2008, p. 1375-1381. [doi:10.1016/j.na.2006.12.031](https://doi.org/10.1016/j.na.2006.12.031) IF: **1.295**
- ISI-10. **Kristály Alexandru**, Marzantowicz Waclaw, Multiplicity of symmetrically distinct sequences of solutions for a quasilinear problem in  $\mathbb{R}^N$ , *NoDEA-Nonlinear Diff Equations Appl* 15(1-2), 2008, p. 209-216. [doi: 10.1007/s00030-007-7015-7](https://doi.org/10.1007/s00030-007-7015-7) IF: **0.424**
- ISI-11. **Kristály Alexandru**, Morosanu Gheorghe, Roth Agoston, Optimal placement of a deposit between markets: Riemann-Finsler geometrical approach, *J Optimiz Theory Appl* 139(2), 2008, p. 263-276. [doi: 10.1007/s10957-008-9421-3](https://doi.org/10.1007/s10957-008-9421-3) IF: **0.860**
- ISI-12. **Kristály Alexandru**, Perturbed Neumann problems with many solutions, *Numer Funct Anal Optim* 29(8/9), 2008, p.1114-1127. [doi: 10.1080/01630560802418383](https://doi.org/10.1080/01630560802418383) IF: **0.586**
- ISI-13. **Kristály Alexandru**, Varga Csaba, Varga Viorica, A nonsmooth principle of symmetric criticality and variational-hemivariational inequalities, *J Math Anal Appl* 325(2), 2007, p. 975-986. [doi:10.1016/j.jmaa.2006.02.062](https://doi.org/10.1016/j.jmaa.2006.02.062) IF: **1.046**
- ISI-14. **Kristály Alexandru**, Varga Csaba, Multiple solutions for elliptic problems with singular and sublinear potentials, *Proc Amer Math Soc* 135(7), 2007, p. 2121-2126. [doi: 10.1090/S0002-9939-07-08715-1](https://doi.org/10.1090/S0002-9939-07-08715-1) IF: **0.584**
- ISI-15. **Kristály Alexandru**, Multiple solutions of a sublinear Schrodinger equation, *Nodea-Nonlinear Diff Equations Appl* 14(3-4), 2007, p. 291-302. [doi: 10.1007/s00030-007-5032-1](https://doi.org/10.1007/s00030-007-5032-1) IF: **0.424**
- ISI-16. **Kristály Alexandru**, Motreanu Dumitru, Nonsmooth Neumann-type problems involving the p-Laplacian, *Numer Func Anal Opt* 28(11-12), 2007, p. 1309-1326. [doi: 10.1080/01630560701749698](https://doi.org/10.1080/01630560701749698) IF: **0.586**
- ISI-17. **Kristály Alexandru**, Faraci Francesca, On an open question of Ricceri concerning a Neumann problem, *Glasgow Math J* 49: (2) 189-195 (2007). [doi:10.1017/S0017089507003515](https://doi.org/10.1017/S0017089507003515) IF: **0.276**
- ISI-18. **Kristály Alexandru**, Faraci Francesca, One-dimensional scalar field equations involving an oscillatory nonlinear term, *Discrete Cont Dyn Systems* 18(1), 2007, p. 107-120. [Website:http://aimScience.org](http://aimScience.org) IF: **0.889**
- ISI-19. **Kristály Alexandru**, Morosanu Gheorghe, Tersian Stepan, Quasilinear elliptic problems in involving oscillatory nonlinearities, *J Differential Equations* 235(2), 2007, p. 366-375. [doi:10.1016/j.jde.2007.01.012](https://doi.org/10.1016/j.jde.2007.01.012) IF: **1.349**
- ISI-20. **Kristály Alexandru**, Kozma Laszlo, Metric characterization of Berwald spaces of non-positive flag curvature, *J Geom Phys* 56, 2006, p. 1257-1270. [doi:10.1016/j.geomphys.2005.06.014](https://doi.org/10.1016/j.geomphys.2005.06.014) IF: **0.683**

- ISI-21. **Kristály Alexandru**, Existence of nonzero weak solutions for a class of elliptic variational inclusions systems in  $\mathbb{R}^N$ , *Nonlinear Anal-TMA* 65(8), 2006, p. 1578-1594. [doi:10.1016/j.na.2005.10.033](https://doi.org/10.1016/j.na.2005.10.033) IF: **1.295**
- ISI-22. **Kristály Alexandru**, Infinitely many solutions for a differential inclusion problem in  $\mathbb{R}^N$ , *J Differential Equations* 220(2), 2006, p. 511-530. [doi:10.1016/j.jde.2005.02.007](https://doi.org/10.1016/j.jde.2005.02.007) IF: **1.349**
- ISI-23. **Kristály Alexandru**, Varga Csaba, Varga Viorica, An eigenvalue problem for hemivariational inequalities with combined nonlinearities on an infinite strip, *Nonlinear Anal-TMA* 63(2), 2005, p. 260-277. [doi:10.1016/j.na.2005.05.011](https://doi.org/10.1016/j.na.2005.05.011) IF: **1.295**
- ISI-24. **Kristály Alexandru**, Existence of two nontrivial solutions for a class of quasilinear elliptic variational systems on strip-like domain, *P Edinburgh Math Soc* 48(2), 2005, p. 465-477. [doi:10.1017/S0013091504000112](https://doi.org/10.1017/S0013091504000112) IF: **0.607**
- ISI-25. **Kristály Alexandru**, Infinitely many radial and non-radial solutions for a class of hemivariational inequalities, *Rocky Mountain J Math* 35(4), 2005, p. 1173-1190. <http://projecteuclid.org/DPubS?service=UI&version=1.0&verb=Display&handle=euclid.rmjm/1181069682> IF: **0.354**
- ISI-26. **Kristály Alexandru**, Multiplicity results for an eigenvalue problem for hemivariational inequalities in strip-like domains, *Set-Valued Anal.* 13(1), 2005, p. 85-103. [doi: 10.1007/s11228-004-6565-7](https://doi.org/10.1007/s11228-004-6565-7) IF: **0.714**
- ISI-27. **Kristály Alexandru**, Varga Csaba, On a class of a quasilinear elliptic problem in  $\mathbb{R}^N$ , *Mathematische Nachrichten* 275(15), 2005, p. 1756-1765. [doi: 10.1002/mana.200510339](https://doi.org/10.1002/mana.200510339) IF: **0.537**

2. Articole științifice publicate în ISI proceedings Nu este cazul.

3. Articole științifice indexate în BDI (din lista CNCSIS) **3 articole**

- BDI-1. **Kristály Alexandru**, O'Regan Donal, Varga Csaba, Parametrized nonlinear equations on Dirichlet forms, *Communication on Applied Analysis*, 13(3), 2009, p. 317-326. **MR2562307** <http://www.scimagojr.com/journalsearch.php?q=28633&tip=sid>
- BDI-2. **Kristály Alexandru**, A double eigenvalue problem for Schrodinger equations involving sublinear nonlinearities at infinity, *Electr. J. Differential Equations* 42(42), 2007, p. 1-11. **MR2299596** <http://ejde.math.unt.edu/index.html>
- BDI-3. **Kristály Alexandru**, Motreanu Viorica, Varga Csaba, A minimax principle with general Palais-Smale conditions, *Communication on Applied Analysis*, 9(2), 2005, p. 285-299. **MR2168763, Zbl pre05017140** <http://www.scimagojr.com/journalsearch.php?q=28633&tip=sid>

4. Alte articole științifice/capitole publicate în reviste/volume cu referenți (peer-reviewed)

- 1. Kristály Alexandru**, Elliptic eigenvalue problems on unbounded domains involving sublinear terms, 5<sup>th</sup> ISAAC Conference, 2005, Proceedings of the 5th International ISAAC Congress, Catania, Italy 25 - 30 July 2005, More Progress in Analysis, World Scientific, H. G. W. Begehr & F. Nicolosi (Editors), ISBN-13 978-981-283-562-8, pp. 805-814.

**2. Kristály Alexandru**, Papageorgiou Nikolaos, Three nontrivial solutions for a semilinear elliptic problem depending on a parameter, *Analele Univ. de Vest, Seria Matematica-Informatica*, Timisoara, Vol. XLV, Fasc. 2, pp. 13-21, 2007. ISSN 1841-3293.

**5. Cărți științifice publicate în edituri internaționale** Nu este cazul (numai in 2010 la Cambridge Univ. Press)

**6. Cărți științifice publicate în edituri naționale acreditate** *3 carti*

C-1. **Kristály Alexandru**, *A Set-Valued Approach to Critical and Equilibrium Points*, Casa Cărții de Știință, Cluj-Napoca, 2009, 140 p. ISBN 978-973-133-616-9.

C-2. **Kristály Alexandru**, *Introducere în matematica economică și financiară*, Casa Cărții de Știință, Cluj-Napoca, 2006, 148 p. ISBN 973-686-965-2.

C-3. **Kristály Alexandru**, *Bevezetés a gazdasági és pénzügyi matematikába*, Casa Cărții de Știință, Cluj-Napoca, 2006, 148 p. ISBN 973-686-966-0.

**7. Editor de volume publicate în edituri naționale și internaționale** *1 volum editat*

EV-1. *Critical Point Theory and its Applications*, Editors: Varga Csaba, **Kristály Alexandru**, Blaga Paul, Casa Cărții de Știință, Cluj-Napoca, 2007, 145 p. ISBN 978-973-133-093-8.

**8. Brevete internaționale** Nu este cazul.

**9. Brevete naționale** Nu este cazul.

**10. Impact tehnologic al brevetelor: resurse financiare extrabugetare atrase în relație cu economia** Nu este cazul.

**11. Realizări artistice naționale și internaționale (Domeniul Arte)**

(Expoziții, spectacole, concerte, publicații, filme, înregistrări) Nu este cazul.

## **Criteriul II – Prestigiu profesional**

Scurt table scientometric (perioada 2005-2009):

Tipul citării	Numar citari
Citari straine in reviste ISI ale lucrarilor ISI (punctul 1)	66
Citari straine in reviste BDI ale lucrarilor mele ISI si BDI (punctul 2)	16
Citari straine in monografii (Springer, Elsevier, Cambridge Univ. Press)	9
Citari straine in teze de doctorat (national+international)	7+6
Citări în perioada 2005-2009 ale articolelor anterioare anului 2005 (punctul 3)	22
<b>Total</b>	<b>126</b>

**Lista detaliata a acestor citari se afla in punctele 1-3 (cf. criteriilor cerute):**

### **1. Citări ale articolelor ISI listate la Criteriul I (numai in reviste ISI): 66 citari**

ISI-2. **Kristály Alexandru**, Varga Csaba, Multiple solutions for a degenerate elliptic equation involving sublinear terms at infinity, *J Math Anal Appl* 352(1), 2009, p. 139-148. [doi:10.1016/j.jmaa.2008.03.025](https://doi.org/10.1016/j.jmaa.2008.03.025) IF: **1.046**.

1. Chen C, Wang H, Ground state solutions for singular p-Laplacian equation in  $\mathbb{R}^N$ , *Journal of Mathematical Analysis and Applications*, 351: (2) 773-780 (2009).

ISI-4. **Kristály Alexandru**, Radulescu Vicentiu, Sublinear eigenvalue problems on compact Riemannian manifolds with applications in Emden-Fowler equations, *Studia Mathematica* 191(3), 2009, p. 237-246. [doi:10.4064/sm191-3-5](https://doi.org/10.4064/sm191-3-5) IF: **0.398**

1. Ricceri B, A three critical points theorem revisited, *Nonlinear Analysis, Theory, Methods and Applications*, 70: (9) 3084-3089 (2009).

ISI-5. **Kristály Alexandru**, Mihailescu Mihai, Radulescu Vicentiu, Two nontrivial solutions for a non-homogeneous Neumann problem: an Orlicz-Sobolev space setting, *P Royal Soc Edinb – Section A* 139, 2009, p. 367-379. [doi:10.1017/S030821050700025X](https://doi.org/10.1017/S030821050700025X) IF: **0.770**

1. Ricceri B, A three critical points theorem revisited, *Nonlinear Analysis, Theory, Methods and Applications*, 70: (9) 3084-3089 (2009).

ISI-8. **Kristály Alexandru**, Detection of arbitrarily many solutions for perturbed elliptic problems involving oscillatory terms, *J Differential Equations* 245(12), 2008, p. 3849-3868. [doi:10.1016/j.jde.2008.05.014](https://doi.org/10.1016/j.jde.2008.05.014) IF: **1.349**

1. Dai G, Arbitrarily many solutions for a perturbed p(x)-Laplacian equation involving oscillatory terms, *Appl Math Comput*, 215: (7) 2544-2556 (2009).

ISI-9. **Kristály Alexandru**, Lisei Hannelore, Varga Csaba, Multiple solutions for p-Laplacian type equations, *Nonlinear Anal-TMA* 68(5), 2008, p. 1375-1381. [doi:10.1016/j.na.2006.12.031](https://doi.org/10.1016/j.na.2006.12.031) IF: **1.295**

1. Papageorgiou NS, Rocha EM, Staicu V, A multiplicity theorem for hemivariational inequalities with a p-Laplacian-like differential operator, *Nonlinear Analysis, Theory, Methods and Applications*, 69: (4) 1150-1163 (2008).

2. Ricceri B, Minimax theorems for functions involving a real variable and applications, *Fixed Point Theory*, 9: (1) 275-291 (2008).
3. Bonanno G, Candito P, Non-differentiable functionals and applications to elliptic problems with discontinuous nonlinearities, *Journal of Differential Equations*, 244: (12) 3031-3059 (2008).
4. Wang W, Zhao P, Nonuniformly nonlinear elliptic equations of p-biharmonic type, *Journal of Mathematical Analysis and Applications*, 348: (2) 730-738 (2008).
5. Li C, Tang CL, Three solutions for a class of quasilinear elliptic systems involving the (p,q)-Laplacian, *Nonlinear Analysis, Theory, Methods and Applications*, 69: (10) 3322-3329 (2008).
6. Ricceri B, A three critical points theorem revisited, *Nonlinear Analysis, Theory, Methods and Applications*, 70: (9) 3084-3089 (2009).
7. Chen C, Wang H, Ground state solutions for singular p-Laplacian equation in  $\mathbb{R}^N$ , *Journal of Mathematical Analysis and Applications*, 351: (2) 773-780 (2009).
8. Deng Y, Pi H, Multiple solutions for p-harmonic type equations, *Nonlinear Analysis, Theory, Methods and Applications* 71: (10) 4952-4959 (2009).

ISI-13. **Kristály Alexandru**, Varga Csaba, Varga Viorica, A nonsmooth principle of symmetric criticality and variational-hemivariational inequalities, *J Math Anal Appl* 325(2), 2007, p. 975-986. [doi:10.1016/j.jmaa.2006.02.062](https://doi.org/10.1016/j.jmaa.2006.02.062) IF: **1.046**

1. Chen C, Wang H, Ground state solutions for singular p-Laplacian equation in  $\mathbb{R}^N$ , *Journal of Mathematical Analysis and Applications*, 351: (2) 773-780 (2009).
2. Dai G, Infinitely many solutions for a differential inclusion problem in  $\mathbb{R}^N$  involving the p(x)-Laplacian, *Nonlinear Analysis, Theory, Methods and Applications*, 71: (3-4) 1116-1123 (2009).
3. Dai G, Three symmetric solutions for a differential inclusion system involving the (p(x),q(x))-Laplacian in  $\mathbb{R}^N$ , *Nonlinear Analysis, Theory, Methods and Applications*, 71: (5-6) 1763-1771 (2009).
4. Chang G, Shen Z, Three solutions for an obstacle problem for a class of variational-hemivariational inequalities, *Appl Math Comput*, 215:(6) 2063-2069 (2009).
5. Carl S, Winkert P, General Comparison Principle for Variational-Hemivariational Inequalities, *J Inequal Appl* 2009:(2009) 1-29 (2009). DOI: 10.1155/2009/184348; Article ID 184348.

ISI-14. **Kristály Alexandru**, Varga Csaba, Multiple solutions for elliptic problems with singular and sublinear potentials, *Proc Amer Math Soc* 135(7) , 2007, p. 2121-2126. [doi: 10.1090/S0002-9939-07-08715-1](https://doi.org/10.1090/S0002-9939-07-08715-1) IF: **0.584**

1. Ricceri B, Minimax theorems for functions involving a real variable and applications, *Fixed Point Theory* , 9: (1) 275-291 (2008).
2. Ricceri B, A three critical points theorem revisited, *Nonlinear Analysis, Theory, Methods and Applications*, 70: (9) 3084-3089 (2009).
3. Deng Y, Pi H, Multiple solutions for p-harmonic type equations, *Nonlinear Analysis, Theory, Methods and Applications* 71: (10) 4952-4959 (2009).

ISI-15. **Kristály Alexandru**, Multiple solutions of a sublinear Schrodinger equation, *Nodea-Nonlinear Diff Equations Appl* 14(3-4), 2007, p. 291-302. [doi: 10.1007/s00030-007-5032-1](https://doi.org/10.1007/s00030-007-5032-1) IF: **0.424**

1. Faraci F, Iannizzotto A, Lisei H, Varga C, A multiplicity result for hemivariational inequalities, *Journal of Mathematical Analysis and Applications*, 330: (1) 683-698 (2007).
2. Cammaroto F, Chinni A, Di Bella B, Multiplicity results for a perturbed nonlinear Schrödinger equation, *Glasgow Mathematical Journal*, 49: (3) 423-429 (2007).
3. Ricceri B, Minimax theorems for functions involving a real variable and applications, *Fixed Point Theory*, 9: (1) 275-291 (2008).
4. Ricceri B, A three critical points theorem revisited, *Nonlinear Analysis, Theory, Methods and Applications*, 70: (9) 3084-3089 (2009).

ISI-16. **Kristály Alexandru**, Motreanu Dumitru, Nonsmooth Neumann-type problems involving the p-Laplacian, *Numer Func Anal Opt* 28(11-12), 2007, p. 1309-1326. [doi: 10.1080/01630560701749698](https://doi.org/10.1080/01630560701749698) IF: **0.586**

1. Dai G, Infinitely many solutions for a hemivariational inequality involving the p(x)-Laplacian, *Nonlinear Analysis, Theory, Methods and Applications*, 71: (1-2) 186-195 (2009).
2. Lisei H, Varga Cs, Multiple solutions for a differential inclusion problem with nonhomogeneous boundary, *Numerical Functional Analysis and Optimization* 30: (5-6) 566-581 (2009).

ISI-19. **Kristály Alexandru**, Morosanu Gheorghe, Tersian Stepan, Quasilinear elliptic problems in involving oscillatory nonlinearities, *J Differential Equations* 235(2), 2007, p. 366-375. [doi:10.1016/j.jde.2007.01.012](https://doi.org/10.1016/j.jde.2007.01.012) IF: **1.349**

1. Chen C, Wang H, Ground state solutions for singular p-Laplacian equation in  $\mathbb{R}^N$ , *Journal of Mathematical Analysis and Applications*, 351: (2) 773-780 (2009).
2. Dai G, Infinitely many solutions for a p(x)-Laplacian equation in  $\mathbb{R}^N$ , *Nonlinear Analysis, Theory, Methods and Applications*, 71: (3-4) 1133-1139 (2009).
3. Dai G, Arbitrarily many solutions for a perturbed p(x)-Laplacian equation involving oscillatory terms, *Appl Math Comput*, 215: (7) 2544-2556 (2009).

ISI-21. **Kristály Alexandru**, Existence of nonzero weak solutions for a class of elliptic variational inclusions systems in  $\mathbb{R}^N$ , *Nonlinear Anal-TMA* 65(8), 2006, p. 1578-1594. [doi:10.1016/j.na.2005.10.033](https://doi.org/10.1016/j.na.2005.10.033) IF: **1.295**

1. Breckner BE, Varga Cs, A multiplicity result for gradient-type systems with non-differentiable term, *Acta Mathematica Hungarica*, 118: (1-2) 85-104 (2007).
2. Breckner BE, Horvath A, Varga Cs, A multiplicity result for a special class of gradient-type systems with non-differentiable term, *Nonlinear Analysis, Theory, Methods and Applications*, 70: (2) 606-620 (2009).
3. Zhang G, Liu S, Multiplicity result for a class of elliptic problems with non-differentiable terms in  $\mathbb{R}^N$ , *Nonlinear Analysis, Theory, Methods and Applications*, 71: (5-6) 1611-1619 (2009).

ISI-22. **Kristály Alexandru**, Infinitely many solutions for a differential inclusion problem in  $\mathbb{R}^N$ , *J Differential Equations* 220(2), 2006, p. 511-530. [doi:10.1016/j.jde.2005.02.007](https://doi.org/10.1016/j.jde.2005.02.007) IF: **1.349**

1. Zhang G, Liu S, Three symmetric solutions for a class of elliptic equations involving the  $p$ -Laplacian with discontinuous nonlinearities in  $\mathbb{R}^N$ , *Nonlinear Analysis, Theory, Methods and Applications*, 67: (7) 2232-2239 (2007).
2. Dai G, Infinitely many solutions for a differential inclusion problem in  $\mathbb{R}^N$  involving the  $p(x)$ -Laplacian, *Nonlinear Analysis, Theory, Methods and Applications*, 71: (3-4) 1116-1123 (2009).
3. Dai G, Infinitely many solutions for a hemivariational inequality involving the  $p(x)$ -Laplacian, *Nonlinear Analysis, Theory, Methods and Applications*, 71: (1-2) 186-195 (2009).
4. Dai G, Infinitely many solutions for a Neumann-type differential inclusion problem involving the  $p(x)$ -Laplacian, *Nonlinear Analysis, Theory, Methods and Applications*, 70: (6) 2297-2305 (2009).
5. Dai G, Infinitely many solutions for a  $p(x)$ -Laplacian equation in  $\mathbb{R}^N$ , *Nonlinear Analysis, Theory, Methods and Applications*, 71: (3-4) 1133-1139 (2009).
6. Dai G, Three solutions for a Neumann-type differential inclusion problem involving the  $p(x)$ -Laplacian, *Nonlinear Analysis, Theory, Methods and Applications*, 70: (10) 3755-3760 (2009).
7. Dai G, Arbitrarily many solutions for a perturbed  $p(x)$ -Laplacian equation involving oscillatory terms, *Appl Math Comput*, 215: (7) 2544-2556 (2009).
8. Dai G, Nonsmooth version of Fountain theorem and its application to a Dirichlet-type differential inclusion problem, *Nonlinear Analysis, Theory, Methods and Applications*, 72: (3-4) 1454-1461 (2010).
9. Bonanno G, D'Agui G, On the Neumann problem for elliptic equations involving the  $p$ -Laplacian, *Journal of Mathematical Analysis and Applications* 358: (2) 223-228 (2009).
10. Dai G, Liu W, Three solutions for a differential inclusion problem involving the  $p(x)$ -Laplacian, *Nonlinear Analysis, Theory, Methods and Applications*, 71: (11) 5318-5326 (2009).

ISI-24. **Kristály Alexandru**, Existence of two nontrivial solutions for a class of quasilinear elliptic variational systems on strip-like domain, *P Edinburgh Math Soc* 48(2), 2005, p. 465-477. [doi:10.1017/S0013091504000112](https://doi.org/10.1017/S0013091504000112) IF: **0.607**

1. Cammaroto F, Chinni A, Di Bella B, Multiple solutions for a quasilinear elliptic variational system on strip-like domains, *P Edinburgh Math Soc*, 50: (3) 597-603 (2007).
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#### 4. Distincții, premii și alte recunoașteri naționale și internaționale

1. Premiul Cercetării Stiintifice, Universitatea Babeș-Bolyai, Nr. 21.121/14.12.2009
2. Diploma Pentru Excelența Stiintifică, Universitatea Babeș-Bolyai, Nr. 20.418/21.12.2007.

## 5. Studenți naționali atrași (activități de coordonare științifică și didactică)

- Îndrumare lucrari de licență (număr lucrări susținute): 2 (in 2008) + 8 (in 2009)=10
- Îndrumare lucrări de disertație (număr lucrări susținute): 2 (in 2009)
- Doctoranzi (lista nominală a doctoranzilor înmatriculați resp. lista nominală a tezelor susținute) : 0
- Post-doctoranzi (lista nominală) : 0

## 6. Studenți internaționali atrași (activități de coordonare științifică și didactică)

- Îndrumare lucrari de licență (număr lucrări susținute) : 0
- Îndrumare lucrări de disertație (număr lucrări susținute) : 0
- Doctoranzi (lista nominală a doctoranzilor înmatriculați resp. lista nominală a tezelor susținute) : 0
- Post-doctoranzi (lista nominală) : 0

## 7. Membru in comitetul de redacție la reviste ISI -.

## 8. Membru in comitetul de redacție la reviste BDI:

1. Studia Universitatis Babes-Bolyai Mathematica (din 2009).

## 9. Participări la programe/granturi de cercetare finanțate din sursă internațională (se menționează și valoarea) -

## 10. Participări la programe/granturi finanțate din sursă națională (se menționează și valoarea)

- Pnp-1. Membru in Grantul CEEEX-M3-C3-12441-CRT-130, 2006-2008. Titlul proiectului: *Dezvoltarea unor parteneriate de cercetare în vederea integrării europene a cercetării matematice de vârf românești în domeniile analizei neliniare, topologiei diferențiale și ale aplicațiilor acestora*. Director proiect: prof. univ. dr. Csaba Varga. Valoare proiect: 200.000 RON.
- Pnp-2. Membru in Grantul PN II IDEI PCE 2008 nr. 501, ID 2162 (2009,2010,2011) Titlul proiectului: *Nonsmooth Phenomena in Nonlinear Elliptic Problems*. Director proiect: conf. univ. dr. Hannelore Lisei. Valoare proiect : 876.000 RON
- Pnp-3. CNCSIS proiect A 1467/2007-2008. Titlul proiectului: *Puncte critice si categorii Lusternik-Schnirelmann. Probleme variationale*. Director proiect: conf. univ. dr. Cornel-Sebastian Pinte. Valoarea grantului: 67.775 RON

## 11. Coordonări de programe/granturi finanțate din sursă internațională (se menționează și valoarea):

- Pi-1. *Professori visitatori*, INDAM (Istituto Nazionale di Alta Matematica), Universita di Catania, Catania, Italia, 2 saptamani (1-16 septembrie 2009). Valoare proiect: 1.100 Euro. A se vedea: [http://gruppi.altamatematica.it/gnampa/Professori visitatori](http://gruppi.altamatematica.it/gnampa/Professori_visitatori)
- Pi-2. *Bursa de Cercetare "János Bolyai"*, Academia Maghiara, Budapesta, Ungaria, 2009-2012. Valoare proiect: 4.180.000 HUF (aprox. 15.500 Euro). A se vedea: [http://www.mta.hu/fileadmin/Bolyai\\_osztondij/Felvahirdet2009.pdf](http://www.mta.hu/fileadmin/Bolyai_osztondij/Felvahirdet2009.pdf)
- Pi-3. *Bursa "Domus Hungarica"*, Academia Maghiara, Debrecen, Ungaria, 3 luni in 2005 si 2006. Valoare proiect: 250.000 HUF (aprox. 920 euro). A se vedea: <http://www.domus.mtaki.hu/>
- Pi-4. *Professori visitatori*, INDAM (Istituto Nazionale di Alta Matematica), Universita di Catania, Catania, Italia, 2 luni (1 iunie - 31 iulie 2005). Valoare proiect: 2.600 Euro. A se vedea: [http://gruppi.altamatematica.it/gnampa/Professori visitatori](http://gruppi.altamatematica.it/gnampa/Professori_visitatori)

Pi-5. *Junior Visiting Research Fellowship*, Central European University, Special and Extension Programs, Budapesta, Ungaria, 3 luni (1 noiembrie 2005 - 31 ianuarie 2006). Valoare proiect: 2400 \$. A se vedea: <http://www.ceu.hu/math>

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## 12. Coordonări de programe/granturi finanțate din sursă națională (se menționează și valoarea)

Pnc-1. Grant CNCSIS Tip PN 2, IDEI\_527, 2007-2010. Titlul proiectului: *Aplicarea unor metode variationale recente la studiul ecuatiilor eliptice neliniare si al problemelor de optimizare*. **Director proiect: conf. univ. dr. Alexandru Kristály**. Valoare proiect: 777.630 RON. A se vedea: <http://idei.527.googlepages.com>

Pnc-2. Grant CNCSIS Tip AT 8/70, 2006-2007. Titlul proiectului: *Studiul unor probleme eliptice cu ajutorul teoriei punctelor critice*. **Director proiect: conf. univ. dr. Alexandru Kristály**. Valoare proiect: 59.000 RON.

Pnc-3. Proiect de cercetare în cadrul Institutului Programelor de Cercetare al Fundației Sapientia, Cluj-Napoca, 2005. Nr. de înregistrare: 1291/2005.10.25. Titlul proiectului: *Studiul și modelarea punctelor critice ale unor funcționale de tip Ricceri*. **Director proiect: conf. univ. dr. Alexandru Kristály**. Valoare proiect: 1.150 euro.

## 13. Profesor invitat la universitati de prestigiu, cu titlu oficial

1. University of Messina, Messina, Italy, 12 June, 2005 (Presented: Multiple solutions of certain elliptic problems on unbounded strips).
2. University of Reggio Calabria, Reggio Calabria, Italy, 13 June, 2005 (Presented: Infinitely many homoclinic solutions for an elliptic problem in  $\mathbb{R}^N$ ).
3. Central European University, Budapest, Hungary, 7 December, 2005 (Presented: Multiple solutions of sublinear elliptic problems in  $\mathbb{R}^N$ ).
4. Central European University, Budapest, Hungary, Mini-workshop: Recent advances in calculus of variations, 30 April – 7 May, 2006. (Presented: One-dimensional scalar field equations involving an oscillatory nonlinear term).
5. Adam Mickiewicz University, Poznan, Poland, 20 June, 2006. (Presented: Infinitely many solutions for an one-dimensional scalar field equation).
6. University of Rousse, Rousse, Bulgaria, 1 August, 2006. (Presented: Nonradial sign changing solutions for quasilinear elliptic equations).
7. Central European University, Budapest, Hungary, Mini-workshop: Some Advances in Applied Mathematics, 25-29 September, 2006. (Presented: Quasilinear elliptic problems with oscillatory nonlinearities).
8. University of Perpignan, Perpignan, France, 27 March, 2007. (Presented: Sublinear eigenvalue problems on compact Riemannian manifolds).
9. Universita di Messina, Italy, 26 June 2007. (Presented: Sublinear eigenvalue problems on compact Riemannian manifolds).
10. Universita di Catania, Italy, 28 June 2007. (Presented: Asymptotically critical problems on spheres).
11. Central European University, Department of Mathematics and its Applications, Budapest, 2 October, 2008. (Presented: Best approximation problems on Finsler-Riemann manifolds).



12. Universita di Messina, Italy, 10 September 2009. (Presented: Arbitrary many solutions for a perturbed problem).
13. Universita di Catania, Italy, 14 September 2009. (Presented: On a new class of elliptic systems with nonlinearities of arbitrary growth).
14. Universitatea Eotvos Lorant, Budapesta, Ungaria, 21 November 2009 (Presented : Metric projections and Nash equilibria on Riemann-Finsler manifolds).

#### 14. Membru în comisii profesionale relevante, cu titlu oficial

1. Expert evaluator la CNCSIS (2008, 2009): PN II IDEI; RP.

#### 15. Conferințe invitate internaționale

1. The 22th IFIP TC 7 Conference on System Modelling and Optimization, 18-22 July, 2005, Politecnico di Torino, Italy. (Presented: Infinitely many solutions for a differential inclusion problem in  $\mathbb{R}^N$ )
2. *Invited main speaker* at The 5th ISAAC Congress, 25-30 July, 2005, University of Catania, Italy. (Presented: Elliptic eigenvalue problems on unbounded domains involving sublinear terms).
3. Workshop "Topological and variational methods for differential equations", University of Rousse, Rousse, Bulgaria, 7-11 May, 2007. (Presented: Sublinear eigenvalue problems on compact Riemannian manifolds with applications in Emden-Fowler equations).
4. "International Workshop on Applied Evolution Equations", Central European University, Budapesta, Ungaria, 21-25 May, 2007. (Presented: Homoclinic solutions for an elliptic problem in  $\mathbb{R}^N$  with oscillatory terms).
5. International Conference in Nonlinear Differential Equations and Applications (ICNODEA), Cluj-Napoca, 3-8 July 2007. (Presented: Elliptic problems in  $\mathbb{R}^N$  involving oscillatory nonlinearities).
6. Workshop on "Critical Point Theory and its Applications", Babes-Bolyai University, Cluj-Napoca, 9-14 July, 2007. (Presented: Asymptotically critical problem on higher dimensional spheres).
7. Spring School in Nonlinear Partial Differential Equations, Louvain-la-Neuve, Belgium, 26-30 May, 2008. (Presented: Detection of arbitrarily many solutions for perturbed elliptic problems involving oscillatory terms).

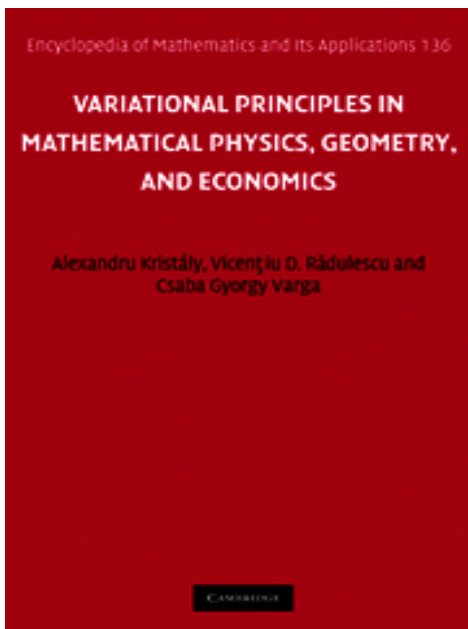
#### 16. Membru în comitete de organizare sau științifice ale unor conferințe internaționale

1. Organizator al școlii de vară "*Critical point theory and its applications*", care a avut loc în perioada de 9-13 iulie 2007, Cluj-Napoca, Facultatea de Matematică și Informatică.

### III. Realizare remarcabilă

(Descrieți într-o manieră cât mai accesibilă (în maximum 1 pagină) cea mai importantă realizare științifică/tehnică/artistică din ultimii 5 ani și impactul acesteia.)

- 1. Realizare științifică (teoretică):** În 1952, H. Busemann și F. Pedersen au formulat următoarea problemă: *Să se caracterizeze acele varietăți Finsler cu curbura nepozitivă unde este valabilă convexitatea funcției  $t \mapsto d_F(c_1(t), c_2(t))$  care măsoară distanța între geodezicele  $c_1$  și  $c_2$ .* Problema era deschisă până în 2006, când **Lászlo Kozma** (Debrecen, Ungaria) și **Alexandru Kristály** au arătat că *spatiile Berwald complete* (o clasă specială de varietăți Finsler) cu curbura nepozitivă au această proprietate; mai mult, extensia acestui rezultat *nu este posibilă* pentru spații generale Finsler, a se vedea lucrarea:
  - **Kristály Alexandru**, Kozma Laszlo, Metric characterization of Berwald spaces of non-positive flag curvature, *J Geometry and Physics* 56, 2006, p. 1257-1270. doi:10.1016/j.geomphys.2005.06.014 IF: **0.683**
- 2. Impactul rezultatului (aplicații):** Rezultatul menționat mai sus nu numai că a rezolvat parțial o problemă de 50 de ani, ci și a deschis calea **aplicațiilor în optimizarea economică**. Alexandru Kristály a obținut individual sau în colaborare **mai multe rezultate complet inovative în existența și localizarea unor puncte de echilibru economic** modelate pe spații curbate care descriu în mod autentic fenomene economice cu un caracter neliniar. Au fost elaborate și programe soft pentru simularea acestor procese. A se vedea lucrările:
  - **Kristály Alexandru**, Morosanu Gheorghe, Roth Agoston, Optimal placement of a deposit between markets: Riemann-Finsler geometrical approach, *J Optimiz Theory Appl* 139(2), 2008, p. 263-276. doi: 10.1007/s10957-008-9421-3 IF: **0.860**
  - **Kristály Alexandru**, Location of Nash equilibria: a Riemannian geometrical approach, *Proc Amer Math Soc*, 138(5), 2010, p. 1803-1810. IF: **0.584**
- 3. Producție științifică prestigioasă:** Aceste rezultate geometrice și de optimizare economică sunt publicate la prestigioasa editură **Cambridge University Press, Cambridge, UK**, autorii fiind **Alexandru Kristály, Vicențiu Radulescu (IMAR, București) și Csaba Varga (UBB)**, titlul monografiei fiind *Variational Principles in Mathematical Physics, Geometry, and Economics*, ce apare în octombrie 2010 în seria *Encyclopedia of Mathematics and its Applications*, No. 136, ISBN-10: 0521117828 | ISBN-13: 9780521117821. Partea a III-a a monografiei tratează probleme economice cu un caracter neliniar (echilibru Nash, probleme de tip Weber, etc), folosind elemente din geometria Riemann-Finsler, analiza nenetădă pe varietăți, sisteme dinamice, etc. Deși monografia este în curs de apariție, ea a fost deja citată de specialiști în domeniu.



Data: 12.03.2010

Semnătura: **Kristály Alexandru**

**Certific validitatea datelor prezentate**

Sef de catedră,