

CURRICULUM VITAE

DATE BIOGRAFICE

- **Nume și prenume:** MICU Sorin Daniel
- **Locul și data nașterii:** Craiova, 26 septembrie 1967
- **E-mail:** sd_micu@yahoo.com
- **Loc de muncă:** Profesor Universitar Dr. la Departamentul de Matematică, Facultatea de Științe, Universitatea din Craiova
- **Adresa profesională:** Str. A. I. Cuza, 13, Craiova 200585, Romania

STUDII GIMNAZIALE ȘI LICEALE

- **Studii gimnaziale:**
Școala generală nr. 22, Craiova, 1974-1982
- **Studii liceale:**
Liceul N. Bălcescu, Craiova, 1982-1986.
Diplomă de Bacalaureat în iunie 1986. Media generală 9.69.

STUDII UNIVERSITARE

- Universitatea din Craiova
Facultatea de Matematică (Facultatea de Științe ale Naturii până în 1989), 1987-1992.
- Licențiat al Facultății de Matematică din Craiova în iulie 1992.
Specializarea principală: matematică.
Media generală 10.00.

STUDII DOCTORALE

- Doctor in Științe Matematice al Universității Complutense din Madrid (Spania) în februarie 1996.
- Titlul Tezei de Doctorat: “Análisis de un sistema híbrido bidimensional fluido-estructura” (Analiza unui sistem hibrid bidimensional fluid-structură). Conducător științific: Enrique Zuazua. Teza este publicată pe suport compact de Universitatea Complutense din Madrid, ISBN: 84-669-0708-4.
- Atestat de echivalare al Ministerului Educației Naționale: 6 iunie 1999.
- Conducere de doctorat: OMEN 4697/14.08.2009.

BURSE PRIMITE

În perioada 1991-1994 am primit, în urma unui concurs național, trei burse de câte șase luni fiecare, la Universitatea Complutense din Madrid (Spania), Departamentul de Matematică Aplicată, în cadrul Proiectului Matarom Tempus JEP-2797. Profesorul îndrumător a fost Enrique Zuazua (Universidad Complutense de Madrid) iar proiectul a fost condus de D-na Profesor Diona Ciorănescu (Université Paris 6).

1. Bursă Tempus JEP 2797-91 1.12.1991-1.07.1992
2. Bursă Tempus JEP 2797-91 1.02.1993-1.08.1993
3. Bursă Tempus JEP 2797-91 1.02.1994-1.08.1994

DOMENII DE COMPETENȚĂ

Specializare în domeniul matematicilor aplicate:

- Teoria controlului
- Ecuatii cu derivate parțiale
- Analiză numerică.

ACTIVITATE DIDACTICĂ

- Preparator la Facultatea de Matematică-Informatică din Craiova între 1993-1996 unde am ținut seminarul de Analiză Numerică.
- Asistent la Facultatea de Matematică-Informatică din Craiova din 1997 unde am ținut seminarul de Analiză Numerică și cursul de Metoda Elementelor Finite.
- Lector la Facultatea de Matematică-Informatică din Craiova din 1999 unde am ținut seminarul de Analiză Numerică și cursul de Metoda Elementelor Finite.
- Conferențiar la Facultatea de Matematică-Informatică din Craiova din 2001 unde am ținut cursul, seminarul și laboratorul de Analiză Numerică și cursul de Metoda Elementelor Finite.
- Profesor la Facultatea de Matematică-Informatică din Craiova din 2005 unde am ținut cursurile, seminariile și laboratoarele de Analiză numerică, Algoritmă și simulare (licență), Teoria controlului, Ecuatii de evoluție și Metode numerice pentru EDP (master).
- Profesor Asociat la Universitatea Carlos III din Madrid în perioada 1995-1996 unde am predat cursurile de Analiză Numerică, Matematică Discretă și Algebră Liniară.
- Profesor Asociat la Universitatea Complutense din Madrid în perioada 1996-2001 unde am predat cursul de Analiză Numerică.
- Am predat cursul de “Sistemas dinámicos y bifurcación” (Sisteme dinamice și bifurcații) în cadrul Programului de Doctorat al Universității Carlos III din Madrid în anul universitar 1996-1997.
- Am colaborat cu E. Zuazua la cursul de “Introducción a la teoría del control” (Introducere în teoria controlului) în cadrul Programului de Doctorat al Universității Complutense din Madrid în anii universitari 1998-1999, 1999-2000.

- În anul universitar 2001-2002 am fost invitat să particip, prin predarea cursului “Metode numerice pentru ecuații cu derivate parțiale”, la programul de Master “Matematici Aplicate” de la Facultatea de Științe din Pitești.

PARTICIPĂRI LA ȘCOLI DE VARĂ

- Școala de vară a Universității Complutense din Madrid “Applied Mathematics at the Turn of the Century”, Almería (Spania), iulie, 1993.
- Școala de toamnă “Analyse Numérique des Équations aux Dérivées Partielles”, București, noiembrie, 1993.
- Cursurile de vară ale Universității Menendez-Pelayo din Madrid “Mathematical Problems of Fluid Mechanics and Combustion”, Santander (Spania), iunie, 1994.
- Cursurile de vară ale Universității Menendez-Pelayo din Madrid “Temas relevantes de la matemática actual: el reto de la enseñanza secundaria”, Santander (Spania), septembrie, 1999.
- Cursurile de vară ale CISM Udine (Italia), “Control of solids and structures”, iunie, 2004.
- Am participat la organizarea școlii “Advanced Course in Numerical Analysis”, Craiova, 22-29 mai 2002. Au ținut prelegeri: Yvon Maday (Universit Pierre et Marie Curie, Paris, France) Claude Le Bris (cole Nationale des Ponts et Chaussées, Champs-sur-Marne, France) Eric Cances (cole Nationale des Ponts et Chaussées, Champs-sur-Marne, France) Gabriel Turinici (INRIA Rocquencourt and cole Nationale des Ponts et Chaussées, Champs-sur-Marne, France) .
- Am ținut un mini-curs ”*Introduccion a la teoria del control*” de două sesiuni a câte o oră și jumătate fiecare, la Universidad Autónoma de Ciudad de Mexico (Mexic), mai 2006.

MEMBRU ÎN COLECTIVE DE REDACȚIE:

1. Editor asociat la Acta Applicandae Mathematicae, ISSN: 0167-8019, Revistă ISI
<http://www.springer.com/mathematics/journal/10440>
2. Editor asociat la Mathematical Control and Related Fields, ISSN: 2156-8472, Revistă ISI
<http://www.aims sciences.org/journals/home.jsp?journalID=23>
3. Editor asociat la Annals of the University of Craiova - Mathematics and Computer Science Series, ISSN: 1223-6934
<http://inf.ucv.ro/ami/index.php/ami>
4. Editor Asociat (în perioada 2003-2006) la ESAIM: COCV, Revistă ISI, ISSN: 1292-8119
<http://journals.cambridge.org/action/displayJournal?jid=COV>
5. Membru în comitetul editorial al Publications of the Centre for Nonlinear Analysis and its Applications, Centru acreditat la Universitatea din Craiova.

1 Coordinates

- *Correspondence address:* Department of Mathematics, 13 A. I. Cuza, 200585 Craiova, Romania
- *E-mail address:* mmihaiiles@yahoo.com
- *URL:* <https://sites.google.com/site/mmihaiiles/>

2 Education

- August 4 - November 26, 2012 **Postdoctoral Fellow** at the University of Sydney, Australia.
- July 24, 2012 **Habilitation in Mathematics** at IMAR, Romania.
- October 29, 2010 **Ph. D.** at Central European University, Budapest, Hungary.
- January 15, 2007 **Ph. D.** at the University of Craiova, Romania.
- 2003 **M. Sc.** Dynamic Systems and Evolution Equations, at the University of Craiova.
- 2001 **B. Sc.** at the University of Craiova.
- 1996-1997 **Freshman** at the National Institute of Applied Sciences (L'Institut National Des Sciences Appliquées) of Lyon, France.
- 1996 **High School Graduate**, *Nicolae Bălcescu High School* (at present, *Carol I National College*) of Craiova, Romania.

3 Activity

- 01.10.2003 - 28.02.2007 *Junior Assistant Professor* at the Department of Mathematics of the University of Craiova;
- 01.03.2007 - 30.09.2012 *Assistant Professor* at the Department of Mathematics of the University of Craiova;
- 01.10.2012 - 28.02.2015 *Associate Professor* at the Department of Mathematics of the University of Craiova.
- 01.03.2015 - present *Professor* at the Department of Mathematics of the University of Craiova.

4 Scientific grants

- *Director* of the research project: *Typical and Nontypical Eigenvalue Problems for Some Classes of Differential Operators* (CNCS-UEFISCDI, project number PN-III-P4-ID-PCE-2016-0035), 12 July 2017-31 December 2019.
- *Member* in the research project: *Analysis of Schrodinger Equations* (CNCS-UEFISCDI, project number PN-II-RU-TE- 2014-4-0007), 1 October 2015-1 October 2017, project director: Ioan-Liviu Ignat. (I became a member of the team of this project starting with 21 of October 2016).
- *UBB Advanced Fellowship-Intern* financially supported by *Star-UBB Institute* from *Babeş-Bolyai University*, no. CNFIS-FDI-2016-0056, 15 November 2016-15 December 2016.
- *Director* of the research project: *Variable Exponent Analysis: Partial Differential Equations and Calculus of Variations* (CNCS-UEFISCDI, project number PN-II-ID-PCE-2012-4-0021), 02 September 2013-30 September 2016.
- *Director* **Go8 European Fellowship** (a fellowship financially supported by Go8 Australian Universities) at the *School of Mathematics and Statistics* from the *University of Sydney* (Australia).
- *Director* of the research project: *Probleme neliniare modelate de operatori diferentiali neomogeni* (CNCSIS-UEFISCSU, project number PN II-RU PD-117/2010), 28 July 2010-28 July 2012.
- *Member* in the research project: *Analysis, Control and Numerical Approximations of Partial Differential Equations* (CNCSIS-UEFISCSU, project number PN-II-ID-PCE-2011-3-0075), 1 October 2011-1 October 2014, project director: Ioan-Liviu Ignat.
- *Member* in the research project: *Proprietati calitative ale ecuatiilor cu derivate partiale si ale aproximarilor lor numerice* (CNCSIS PNII TE-4/2010), 28 July 2010-28 July 2013, project director: Ioan-Liviu Ignat.
- *Member* in the research project: *Procese Neliniare Degenerate si Singulare* (CNCSIS PNII 78/2007), 1 October 2007-30 September 2010, project director: Vicențiu Rădulescu.

5 Awards

- “*Simion Stoilow*” *Prize of the Romanian Academy for 2010*.

6 List of scientific publications

- M. Mihăilescu and V. Rădulescu, Ground state solutions of non-linear singular Schrödinger equations with lack of compactness, *Mathematical Methods in the Applied Sciences* **26** (2003), 897-906.
- M. Mihăilescu, Nonlinear eigenvalue problems for some degenerate elliptic operators on \mathbb{R}^N , *Bull. Belg. Math. Soc.* **12** (2005), 435-448.
- M. Mihăilescu, Degenerate Elliptic Problems on Bounded Domains with Robin Boundary Conditions, *PanAmerican Mathematical Journal* **15**(3) (2005), 69-78.

- M. Mihăilescu, Existence and multiplicity of weak solutions for a class of degenerate nonlinear elliptic equations, *Boundary Value Problems* 2006, Art. ID 41295, 17 pp.
- M. Mihăilescu, Existence and multiplicity of solutions for an elliptic equation with $p(x)$ -growth conditions, *Glasgow Mathematical Journal* **48** (2006), 411-418.
- M. Mihăilescu, Elliptic problems in variable exponent spaces, *Bull. Austral. Math. Soc.* **74** (2006), 197-206.
- M. Mihăilescu and V. Rădulescu, A multiplicity result for a nonlinear degenerate problem arising in the theory of electrorheological fluids, *Proc. Roy. Soc. London Ser. A* **462** (2006), 2625-2641.
- M. Mihăilescu and V. Rădulescu, CORRECTION: A multiplicity result for a nonlinear degenerate problem arising in the theory of electrorheological fluids, *Proc. Roy. Soc. London Ser. A* **467** (2011), 3033-3034.
- M. Mihăilescu, Existence and multiplicity of solutions for a Neumann problem involving the $p(x)$ -Laplace operator, *Nonlinear Anal.* **67** (2007), 1419-1425.
- M. Mihăilescu and V. Rădulescu, Existence and multiplicity of solutions for quasilinear nonhomogeneous problems: an Orlicz-Sobolev space setting, *Journal of Mathematical Analysis and Applications* **330** (2007), Vol. 1, 416-432.
- M. Mihăilescu and V. Rădulescu, Nonhomogeneous boundary value problems in Orlicz-Sobolev spaces, *C. R. Acad. Sci. Paris Ser. I Math.* **344** (2007), No. 1, 15-20.
- M. Mihăilescu and V. Rădulescu, On a nonhomogeneous quasilinear eigenvalue problem in Sobolev spaces with variable exponent, *Proceedings of the American Mathematical Society* **135** (2007), No. 9, 2929-2937.
- M. Mihăilescu and C. P. Niculescu, An extension of the Hermite-Hadamard inequality through subharmonic functions, *Glasgow Mathematical Journal* **49** (2007), 509-514.
- M. Mihăilescu and I. Roventă, Existence and multiplicity of radial solutions for an elliptic boundary value problem on an annulus, *Bull. Math. Soc. Sci. Math. Roumanie*, Tome 50(98) No. 4, 2007, 331-341.
- M. Mihăilescu, P. Pucci and V. Rădulescu, Nonhomogeneous boundary value problems in anisotropic Sobolev spaces, *C. R. Acad. Sci. Paris Ser. I Math.* **345** (2007), 561-566.
- M. Mihăilescu and V. Rădulescu, Eigenvalue problems associated to nonhomogeneous differential operators in Orlicz-Sobolev spaces, *Analysis and Applications* **6** (2008), No. 1, 1-16.
- M. Mihăilescu, P. Pucci and V. Rădulescu, Eigenvalue problems for anisotropic quasilinear elliptic equations with variable exponent, *Journal of Mathematical Analysis and Applications* **340** (2008), 687-698.
- M. Mihăilescu and V. Rădulescu, Continuous spectrum for a class of nonhomogeneous differential operators, *Manuscripta Mathematica* **125** (2008), 157-167.
- M. Mihăilescu and V. Rădulescu, Nonhomogeneous Neumann problems in Orlicz-Sobolev spaces, *C. R. Acad. Sci. Paris, Ser. I* **346** (2008), 401-406.
- M. Mihăilescu, On a class of nonlinear problems involving a $p(x)$ -Laplace type operator, *Czechoslovak Mathematical Journal* **58** (133) (2008), 155-172.
- M.-M. Boureanu and M. Mihăilescu, Existence and multiplicity of solutions for a Neumann problem involving variable exponent growth conditions, *Glasgow Mathematical Journal* **50** (3) (2008), 565-574.

- M. Mihăilescu, Eigenvalue problems for some nonlinear perturbations of the Laplace operator, *Bull. Math. Soc. Sci. Math. Roumanie*, Tome 51(99) No. 4, 2008, 1-13.
- M. Mihăilescu and V. Rădulescu, Neumann problems associated to nonhomogeneous differential operators in Orlicz-Sobolev spaces, *Annales de l'Institut Fourier* **58** (6) (2008), 2087-2111.
- M. Mihăilescu and V. Rădulescu, Spectrum in an unbounded interval for a class of nonhomogeneous differential operators, *Bulletin of the London Mathematical Society* **40** (6) (2008), 972-984.
- M. Mihăilescu and G. Moroşanu, Quasilinear elliptic equations involving variable exponents, in vol. Numerical Analysis and Applied Mathematics. International Conference on Numerical Analysis and Applied Mathematics (ICNAAM) 2008, Psalidi, Kos, Greece, 16-20 September 2008, (T.E. Simos et al., Editors), American Institute of Physics, Melville-New York, 2008, pp. 384-387.
- M. Mihăilescu and V. Rădulescu, A continuous spectrum for nonhomogeneous differential operators in Orlicz-Sobolev spaces, *Mathematica Scandinavica* **104** (2009), 132-146.
- A. Kristály, M. Mihăilescu and V. Rădulescu, Two nontrivial solutions for a non-homogeneous Neumann problem: an Orlicz-Sobolev setting, *Proceedings of the Royal Society of Edinburgh: Section A (Mathematics)* **139A** (2009), 367-379.
- M. Mihăilescu, G. Moroşanu and V. Rădulescu, Eigenvalue problems in anisotropic Orlicz-Sobolev spaces, *C. R. Acad. Sci. Paris, Ser., I* **347** (2009), 521-526.
- N. Costea and M. Mihăilescu, Nonlinear, degenerate and singular eigenvalue problems on \mathbb{R}^N , *Nonlinear Analysis* **71** (2009), 1153-1159.
- N. Costea and M. Mihăilescu, On an eigenvalue problem involving variable exponent growth conditions, *Nonlinear Analysis* **71** (2009), 4271-4278.
- M. Mihăilescu, V. Rădulescu and S. Tersian, Eigenvalue Problems for Anisotropic Discrete Boundary Value Problems, *Journal of Difference Equations and Applications* **15** (2009), 557-567.
- M. Mihăilescu and D. Stancu-Dumitru, On an eigenvalue problem involving the $p(x)$ -Laplace operator plus a non-local term, *Differential Equations & Applications* **1** (2009), 367-378.
- M. Mihăilescu, V. Rădulescu and D. Repovš, On a non-homogeneous eigenvalue problem involving a potential: an Orlicz-Sobolev space setting, *J. Math. Pures Appliquées (Journal de Liouville)* **93** (2010), 132-148.
- M. Mihăilescu and G. Moroşanu, Existence and multiplicity of solutions for an anisotropic elliptic problem involving variable exponent growth conditions, *Applicable Analysis* **89** (2) (2010), 257-271.
- M. Bocea and M. Mihăilescu, Γ -convergence of power-law functionals with variable exponents, *Nonlinear Analysis* **73** (2010), 110-121.
- M. Mihăilescu and V. Rădulescu, Eigenvalue problems with weight and variable exponent for the Laplace operator, *Analysis and Applications* **8** (2010), 235-246.
- M. Mihăilescu and G. Moroşanu, On an eigenvalue problem for an anisotropic elliptic equation involving variable exponents, *Glasgow Mathematical Journal* **52** (2010), 517-527.
- M. Mihăilescu, G. Moroşanu and V. Rădulescu, Eigenvalue problems for anisotropic elliptic equations: an Orlicz-Sobolev space setting, *Nonlinear Analysis* **73** (2010), 3239-3252.

- M. Bocea, M. Mihăilescu and C. Popovici, On the asymptotic behavior of variable exponent power-law functionals and applications, *Ricerche di Matematica* **59** (2010), 207-238.
- M. Mihăilescu and D. Stancu-Dumitru, On a degenerate and singular elliptic equation with critical exponent and non-standard growth conditions, *Studia Universitatis Babeş-Bolyai Mathematica* **LV**, No. 4 (2010), 91-98.
- M. Mihăilescu and V. Rădulescu, Concentration phenomena in nonlinear eigenvalue problems with variable exponents and sign-changing potential, *Journal d'Analyse Mathématique* **111** (2010), 267-287.
- A. Kristály, M. Mihăilescu, V. Rădulescu and S. Tersian, Spectral estimates for a nonhomogeneous difference problem, *Communications in Contemporary Mathematics* **12** (2010), 1015-1029.
- M. Mihăilescu, An eigenvalue problem possessing a continuous family of eigenvalues plus an isolated eigenvalue, *Communications on Pure and Applied Analysis* **10** (2011), 701-708.
- M. Mihăilescu and D. Repovš, Multiple solutions for a nonlinear and non-homogeneous problem in Orlicz-Sobolev spaces, *Applied Mathematics and Computation* **217** (2011), 6624-6632.
- M. Mihăilescu and V. Rădulescu, Sublinear eigenvalue problems associated to the Laplace operator revisited, *Israel Journal of Mathematics* **181** (2011), 317-326.
- M. Mihăilescu, G. Moroşanu and D. Stancu-Dumitru, Equations involving a variable exponent Grushin-type operator, *Nonlinearity* **24** (2011), 2663-2680.
- M. Mihăilescu, V. Rădulescu and D. Stancu-Dumitru, On a Caffarelli-Kohn-Nirenberg type inequality in bounded domains involving variable exponent growth conditions and applications to PDE's, *Complex Variables-Elliptic Equations* **56** (2011), 659-669.
- M. Mihăilescu, G. Moroşanu and D. Stancu-Dumitru, An existence result for a PDE involving a Grushin type operator and variable exponents, in vol. Numerical Analysis and Applied Mathematics. International Conference on Numerical Analysis and Applied Mathematics (ICNAAM) 2011, Halkidiki, Greece, 19-25 September 2011, (T.E. Simos et al., Editors), American Institute of Physics, Melville-New York, 2011, pp. 889-892.
- A. Kristály, M. Mihăilescu and V. Rădulescu, Discrete boundary value problems involving oscillatory nonlinearities: small and large solutions, *Journal of Difference Equations and Applications* **17** (2011), 1431-1440.
- M. Mihăilescu and G. Moroşanu, Eigenvalues of the Laplace operator with nonlinear boundary conditions, *Taiwanese Journal of Mathematics* **15** (2011), 1115-1128.
- M. Mihăilescu and C. Varga, Multiplicity results for some elliptic problems with nonlinear boundary conditions involving variable exponents, *Computers & Mathematics with Applications* **62** (2011), 3464-3471.
- M. Mihăilescu and D. Repovš, An eigenvalue problem involving a degenerate and singular elliptic operator, *Bull. Belg. Math. Soc.*, **18** (2011), 839-847.
- M. Mihăilescu, V. Rădulescu and S. Tersian, Homoclinic solutions of difference equations with variable exponents, *Topological Methods in Nonlinear Analysis* **38** (2011), 277-289.
- M. Mihăilescu and D. Repovš, On a PDE involving the $\mathcal{A}_{p(\cdot)}$ -Laplace operator, *Nonlinear Analysis* **75** (2012), 975-981.

- M. Bocea, M. Mihăilescu, M. Pérez-Llanos and J. D. Rossi, Models for growth of heterogeneous sandpiles via Mosco convergence, *Asymptotic Analysis* **78** (2012), 11-36.
- M. Bocea and M. Mihăilescu, A Caffarelli-Kohn-Nirenberg inequality in Orlicz-Sobolev spaces and applications, *Applicable Analysis* **91** (2012), 1649-1659.
- M. Mihăilescu and D. Stancu-Dumitru, Anisotropic quasilinear elliptic equations with variable exponent, *J. Korean Math. Soc.* **49** (2012), 1123-1138.
- M. Mihăilescu and G. Moroşanu, An existence result for a nonhomogeneous problem in \mathbb{R}^2 related to nonlinear Hencky-type materials, *Nonlinear Analysis: Real World Applications* **14** (2013), 1466-1476.
- M. Bocea and M. Mihăilescu, Eigenvalue problems in Orlicz-Sobolev spaces for rapidly growing operators in divergence form, *J. Differential Equations* **256** (2014), 640-657.
- M. Bocea and M. Mihăilescu, On the continuity of the Luxemburg norm of the gradient in $L^{p(\cdot)}$ with respect to $p(\cdot)$, *Proc. Amer. Math. Soc.* **142** (2014), 507-517.
- M. Bocea and M. Mihăilescu, The principal frequency of Δ_∞ as a limit of Rayleigh quotients involving Luxemburg norms, *Bulletin des Sciences Mathématiques* **138** (2014), 236-252.
- F. Abdullayev, M. Bocea and M. Mihăilescu, A variational characterization of the effective yield set for ionic polycrystals, *Applied Mathematics & Optimization* **69** (2014), 487-503.
- M. Bocea, M. Mihăilescu and D. Stancu-Dumitru, The limiting behavior of solutions to inhomogeneous eigenvalue problems in Orlicz-Sobolev spaces, *Advanced Nonlinear Studies* **14** (2014), 977-990.
- M. Fărcaşeanu, M. Mihăilescu and D. Stancu-Dumitru, On the set of eigenvalues of some PDEs with homogeneous Neumann boundary condition, *Nonlinear Analysis* **116** (2015), 19-25.
- M. Mihăilescu, Classification of isolated singularities for nonhomogeneous operators in divergence form, *Journal of Functional Analysis* **268** (2015), 2336-2355.
- M. Bocea and M. Mihăilescu, Γ -convergence of inhomogeneous functionals in Orlicz-Sobolev spaces, *Proceedings of the Edinburgh Mathematical Society* **58** (2015), 287-303.
- M. Mihăilescu, D. Stancu-Dumitru and C. Varga, On the spectrum of a Baouendi-Grushin type operator: an Orlicz-Sobolev space setting approach, *Nonlinear Differential Equations and Applications (NoDEA)* **22** (2015), 1067-1087.
- M. Bocea and M. Mihăilescu, Existence of nonnegative viscosity solutions for a class of problems involving the ∞ -Laplacian, *Nonlinear Differential Equations and Applications (NoDEA)* **23** (2016), 1-21.
- M. Mihăilescu and D. Stancu-Dumitru, A perturbed eigenvalue problem on general domains, *Annals of Functional Analysis* **7** (2016), 529-542.
- M. Mihăilescu and G. Moroşanu, Eigenvalues of $-\Delta_p - \Delta_q$ under Neumann boundary condition, *Canadian Mathematical Bulletin* **59** (2016), 606-616.
- M. Fărcaşeanu and M. Mihăilescu, Continuity of the first eigenvalue for a family of degenerate eigenvalue problems, *Archiv der Mathematik* **107** (2016), 659-667.

- M. Fărcașeanu, M. Mihăilescu and D. Stancu-Dumitru, A maximum principle for a class of first order differential operators. *New trends in differential equations, control theory and optimization*, 93-103, World Sci. Publ., Hackensack, NJ, 2016.
- M. Bocea and M. Mihăilescu, On a family of inhomogeneous torsional creep problems, *Proceedings of the American Mathematical Society* **145** (2017), 4397-4409.
- M. Fărcașeanu, M. Mihăilescu and D. Stancu-Dumitru, Perturbed fractional eigenvalue problems, *Discrete and Continuous Dynamical Systems - Series A* **37** (2017), 6243-6255.
- M. Fărcașeanu, M. Mihăilescu and D. Stancu-Dumitru, On the convergence of the sequence of solutions for a family of eigenvalue problems, *Mathematical Methods in the Applied Sciences* **40** (2017), 6919-6926.
- M. Mihăilescu, D. Stancu-Dumitru and C. Varga, The convergence of nonnegative solutions for the family of problems $-\Delta_p u = \lambda e^u$ as $p \rightarrow \infty$, *ESAIM: Control, Optimisation and Calculus of Variations* **24** (2018), 569-578.
- M. Mihăilescu and M. Pérez-Llanos, Inhomogeneous torsional creep problems in anisotropic Orlicz Sobolev Spaces, *Journal of Mathematical Physics* **59** 071513 (2018), <https://doi.org/10.1063/1.5047918>.
- M. Fărcașeanu and M. Mihăilescu, On a family of torsional creep problems involving rapidly growing operators in divergence form, *Proceedings of the Royal Society of Edinburgh Section A: Mathematics*, in press.
- M. Bocea and M. Mihăilescu, Minimization Problems for Inhomogeneous Rayleigh Quotients, *Communications in Contemporary Mathematics*, in press. (DOI: 10.1142/S0219199717500742)
- M. Bocea and M. Mihăilescu, On the existence and uniqueness of exponentially harmonic maps and some related problems, *Israel Journal of Mathematics*, in press.

7 Editorial activities

Member of the editorial board of *Abstract and Applied Analysis*.

<http://www.hindawi.com/journals/aaa/editors/>

8 Talks

- Workshop: **Resultats concernant le p -Laplacien avec p non-constant**, November 6, 2007, Institut of Mathematics Simion Stoilow of the Romanian Academy, Bucharest, Romania (title of the talk: *Spectral properties of some nonhomogeneous differential operators*).

<http://www.imar.ro/purice/Inst/Conferinte-07.html>

- Workshop: **Some Topics in Applied Mathematics**, November 21, 2007, Central European University, Budapest, Hungary (title of the talk: *A continuous spectrum for non-homogeneous differential operators in variable exponent spaces*).

http://web.ceu.hu/math/News&Events/Archives/Archives_2006_2009.html

- Workshop: **Calculus of Variations and Optimization**, October 2, 2008, Central European University, Budapest, Hungary (title of the talk: *Eigenvalue problems for anisotropic elliptic equations*).
http://web.ceu.hu/math/News&Events/Archives/Archives_2006_2009.html
- **Workshop on Partial Differential Equations**, October 29-30, 2008, Institut of Mathematics Simion Stoilow of the Romanian Academy, Bucharest, Romania (title of the talk: *Eigenvalue problems involving variable exponents*).
<http://www.imar.ro/%7Epurice/conferences/2008/workshop-ignat-rp3.pdf>
- Workshop: **Nonlinear Difference and Differential Equations and Applications**, April 2-4, 2009, University of Rousse, Bulgaria (title of the talk: *Eigenvalue problems associated to the Laplace operator*).
- **Romanian-German Symposium on Mathematics and Its Applications**, Sibiu (Hermannstadt), Romania, May 14-17, 2009 (title of the talk: *Some eigenvalue problems associated to the Laplace operator*).
<http://depmath.ulbsibiu.ro/event/rogers2009/>
- Workshop: **Applied Analysis**, February 12 (Friday), 2010, Central European University, Budapest, Hungary (title of the talk: *Degenerate elliptic equations involving variable exponent growth conditions*).
<http://web.ceu.hu/math/News&Events/News&Events.html>
- Workshop: **Nonlinear Difference and Differential Equations and Applications**, April 22-24, 2010, University of Rousse, Bulgaria (title of the talk: Γ -Convergence of functionals in Sobolev spaces with variable exponents).
- **Variable Exponent Analysis**, June 28 - July 2, 2010, University of Oulu, Finland (title of the talk: Γ -convergence for some power-law functionals involving nonstandard growth conditions).
<http://www.helsinki.fi/hasto/varexpo/>
- **Departmental Seminar of the Department of Mathematics and its Applications from the Central European University, Budapest, Hungary, September 28, 2010** (title the talk: *An eigenvalue problem for an elliptic differential operator with the Neumann boundary condition*).
<http://web.ceu.hu/math/Research/Sessions.html>
- **Workshop on Partial Differential Equations**, November 25-26, 2010, Institut of Mathematics Simion Stoilow of the Romanian Academy, Bucharest, Romania (title of the talk: Γ -convergence of functionals involving variable exponents).
http://www.imar.ro/math-mode/2010/workshop_imar_2010.pdf
- **Workshop for Young Researchers in Mathematics**, May 12-13, 2011, "Ovidius" University of Constanța, Constanța, Romania (title of the talk: *Mosco convergence for some power law functionals involving variable exponents*).
<http://math.univ-ovidius.ro/workshop/2011/WYRM/>
- **Workshop on Applied Mathematics**, May 26, 2011, Central European University, Budapest, Hungary (title of the talk: *Mosco convergence of functionals in Sobolev spaces with variable exponents*)
<http://mathematics.ceu.hu/news/2011-05-21/workshop-on-applied-mathematics-dedicated-to-the-20th-anniversary-of-ceu>

- **The Seventh Congress of Romanian Mathematicians**, June 29 - July 5, 2011, "Transilvania" University of Braşov, Braşov, Romania (title of the talk: *Mosco convergence for some power law functionals involving variable exponents*)
<http://imar.ro/organization/activities/standalone/congmatro2011/conf.php>
- **International Conference on Differential & Difference Equations and Applications**, July 4-8, 2011, Azores University, Ponta Delgada, Portugal (title of the talk: *Mosco convergence for some power law functionals involving variable exponent growth conditions*)
<http://www.spinelas.uac.pt/AzoresConference.htm>
- **ICNAAM 2011, 9th International Conference of Numerical Analysis and Applied Mathematics**, September 19-25, 2011, G-Hotels, Halkidiki, Greece (title of the talk: *An existence result for a PDE involving a Grushin type operator and variable exponents*)
<http://www.icnaam.org/>
- **Analysis Seminar of the Department of Mathematics and Statistics from Loyola University Chicago**, October 17, 2011, (title of the talk: *On a maximum principle related with eigenvalue problems involving variable exponents*)
<http://webpages.math.luc.edu/~mbocea/AnalysisSeminar-Fall2011.html>
- **AMS Western Section Meeting**, October 22-23, 2011, University of Utah, Salt Lake City, Utah, USA (title of the talk: *A maximum principle connected with eigenvalue problems involving variable exponents*)
http://www.ams.org/meetings/sectional/2184_program_ss15.html
- **Seminar of the PDE's Research Group from Basque Center of Applied Mathematics, Bilbao, Spain**, February 14, 2012, (title of the talk: *Remarks on the first eigenvalue of the $p(x)$ -Laplace operator*)
http://www.bcmath.org/public_visitors/ctrl_visitors.php?action=past
- **Workshop for Young Researchers in Mathematics**, May 10-11, 2012, "Ovidius" University of Constanţa, Constanţa, Romania (title of the talk: *A maximum principle related with eigenvalue problems involving variable exponents*)
<http://math.univ-ovidius.ro/workshop/2012/WYRM/>
- **PDE Seminar of the School of Mathematics and Statistics from the University of Sydney**, September 3, 2012 (title of the talk: *PDE's involving variable exponents*)
<http://www.maths.usyd.edu.au/u/PDESeminar/index12.html>
- **Australian Mathematical Society 56-th Annual Meeting**, September 24 - 27, 2012, University of Ballarat, Ballarat, Australia (title of the talk: *Mosco convergence for some power law functionals involving variable exponent growth conditions*)
<http://www.ballarat.edu.au/schools/school-of-science-and-technology/australian-mathematical-society-56th-annual-meeting/program/abstracts-by-session>
- **PDE/Analysis seminar of the Mathematical Sciences Institute, College of Physical & Mathematical Sciences from the Australian National University**, November 13, 2012, (title of the talk: *Classification of isolated singularities for equations involving the Finsler-Laplace operator*)

<http://maths.anu.edu.au/events/>

[pdeanalysis-seminar-classification-isolated-singularities-equations-involving-finsler-laplace](#)

• **Pure Maths Seminar of the School of Mathematics and Statistics from the University of New South Wales**, November 20, 2012, (title of the talk: *Classification of isolated singularities for equations involving the Finsler-Laplace operator*)

http://www.maths.unsw.edu.au/seminars/archive/2012-11?term_node_tid_depth_3=207

• **PDE Seminar of the School of Mathematics and Statistics from the University of Sydney**, November 21, 2012, (title of the talk: *Classification of isolated singularities for equations involving the Finsler-Laplace operator*)

<http://www.maths.usyd.edu.au/u/PDESeminar/index12.html>

• **Advances in Differential Equations: symmetrizations and related topics**, March 14-15, 2013, Babeş-Bolyai University, Cluj-Napoca, Romania (title of the talk: *The asymptotic behavior of some power-law functionals in Sobolev spaces with variable exponents*)

<https://sites.google.com/site/idei0241/mini-workshop>

• **Joint International Meeting of the AMS and the Romanian Mathematical Society**, June 27-30, 2013, 1 Decembrie 1918 University, Alba Iulia, Romania (title of the talk: *PDE's involving a variable exponent Grushin-type operator*)

<http://imar.ro/ams-ro2013/talks.html>

<http://www.ams.org/meetings/international/internmtgs>

• **PDE Seminar of the School of Mathematics and Statistics from the University of Sydney**, September 26, 2013, (title of the talk: *The asymptotic behavior of some power-law functionals in Sobolev spaces with variable exponents*)

<http://www.maths.usyd.edu.au/u/PDESeminar/>

• **Australian Mathematical Society 57-th Annual Meeting**, September 30 - October 03, 2013, University of Sydney, Sydney, Australia (title of the talk: *Eigenvalue problems in Orlicz-Sobolev spaces for rapidly growing operators in divergence form*)

<http://www.maths.usyd.edu.au/u/austms2013/abstracts.html>

• **Research Seminar on Nonlinear Operators and Differential Equations**, March 13, 2014, "Babeş-Bolyai" University, Cluj-Napoca, Romania (title of the talk: *An eigenvalue problem involving a nonhomogeneous operator in divergence form*) <http://www.math.ubbcluj.ro/~nodeacj/soned.html>

• **Workshop for Young Researchers in Mathematics**, May 22-23, 2014, "Ovidius" University of Constanța, Constanța, Romania (title of the talk: *Eigenvalue problems in Orlicz-Sobolev spaces for rapidly growing operators in divergence form*)

<http://math.univ-ovidius.ro/Workshop/2014/WYRM/>

• **The Eighth Congress of Romanian Mathematicians**, June 26 - July 1, 2015, "A. I. Cuza" University of Iași, Iași, Romania (title of the talk: *On the asymptotic behavior of some classes of nonlinear eigenvalue problems involving the p -Laplacian*)

<http://www.math.uaic.ro/cmr2015/index.php?info>

- **AMS Central Fall Sectional Meeting - Special Session on Nonlinear PDEs and Calculus of Variations**, October 2 - 4, 2015, Loyola University Chicago, Chicago, IL, USA (title of the talk: *Classification of isolated singularities for inhomogeneous operators in divergence form*)
http://www.ams.org/meetings/sectional/2219_program_ss22.html#title
- **Workshop for Young Researchers in Mathematics**, May 19-22, 2016, "Ovidius" University of Constanța, Constanța, Romania (title of the talk: *Classification of isolated singularities for inhomogeneous operators in divergence form*)
<http://math.univ-ovidius.ro/Workshop/2016/WYRM/>
- **The 6th Workshop Series on Mathematics**, June 3-4, 2016, Univeristy of Pitești, Pitești, Romania (title of the talk: *On the asymptotic behavior of some classes of nonlinear eigenvalue problems involving the p-Laplacian*)
<https://www.upit.ro/ro/stiri/the-6th-workshop-series-on-mathematics>
- **Le 13eme Colloque Franco-Roumain en Mathematiques Appliquees - Special Session on Analyse et Controle des EDP**, August 25-29, 2016, Universitatea A. I. Cuza din Iasi, Iasi, Romania (title of the talk: *Classification of isolated singularities for inhomogeneous operators in divergence form*)
<http://www.math.uaic.ro/cfr2016/index.php?info>
- **Seminarul Științific al Departamentului de Matamatică de la Universitatea "Ovidius" din Constanța**, October 21, 2016 (title of the talk: *Inhomogeneous torsional creep problems*)
<http://math.univ-ovidius.ro/Doc/Evenimente/20161019/Program.pdf>
- **Seminar on Nonlinear Operators and Differential Equations**, November 24, 2016, Universitatea Babeș-Bolyai, Cluj Napoca, Romania (title of the talk: *Inhomogeneous torsional creep problems*)
<http://www.math.ubbcluj.ro/~nodeacj/soned.html>
- **Seminar of the Department of Mathematics and Statistics**, March 14, 2017, The College of Arts and Sciences, American University of Sharjah, United Arab Emirates (title of the talk: *Inhomogeneous torsional creep problems*)
- **Workshop on Nonlinear Analysis on the Occasion of the 65th Birthday of Patrizia Pucci**, May 25-27, 2017, Babeș-Bolyai University, Cluj-Napoca, Romania (title of the talk: *Typical and nontypical eigenvalue problems for some classes of differential operators*)
<http://www.cs.ubbcluj.ro/nonlinear-analysis-workshop-65th-birthday-of-patrizia-pucci/>
- **6th International Conference on Mathematics and Informatics**, September 7-9, 2017 Târgu Mureș/Marosvásárhely, Romania (title of the talk: *Classification of isolated singularities for inhomogeneous operators in divergence form*)
<http://mitis.ro/mathinfo/2017/>
- **Nonlinear Difference and Differential Equations and their Applications NODDEA'2017** , October 26-28, 2017, University of Ruse, Bulgaria (title of the talk: *Minimization Problems for Inhomogeneous Rayleigh Quotients*)
http://conf.uni-ruse.bg/en/docs/NODDEA2017_PROGRAME.pdf
- **Sextas Jornadas de Análisis Matemático en Alicante**, January 24-26, 2018, University of Alicante, Spain

(title of the talk: *Minimization Problems for Inhomogeneous Rayleigh Quotients*)

<https://dmat.ua.es/en/activities/6th-edition-mathematical-analysis.html>

- **Workshop on Differential Equations**, April 4-6, 2018, Central European University, Budapest, Hungary

(title of the talk: *Problems involving rapidly growing operators in divergence form*)

<https://mathematics.ceu.edu/>

workshop-differential-equations-april-4-6-2018-central-european-university-budapest

- **Transitions de phase et équations non locales**, April 25-27, 2018, Institute of Mathematics of the Romanian Academy, Bucharest, Romania (title of the talk: *Deux problèmes variationnels liés aux opérateurs en forme divergence avec symbole à croissance rapide*)

<https://indico.math.cnrs.fr/event/3052/overview>

- **14th Franco-Romanian Conference on Applied Mathematics**, August 27-31, University of Bordeaux

(title of the talk: *Minimization Problems for Inhomogeneous Rayleigh Quotients*)

<https://france-roumanie.sciencesconf.org/program>

9 Conferences organized

- **Special Session on Applied Analysis at AMS Western Section Meeting**, 22-23 Octombrie, 2011, University of Utah, Salt Lake City, Utah, USA (co-organized with Marian Bocea, Department of Mathematics and Statistics, Loyola University Chicago).

http://www.ams.org/meetings/sectional/2184_program_ss15.html

- **Special Session on Calculus of Variations and Partial Differential Equations at Joint International Meeting of the AMS and the Romanian Mathematical Society**, June 27-30, 2013, 1 Decembrie 1918 University, Alba Iulia, Romania (co-organized with Marian Bocea - Loyola University Chicago; Liviu Ignat - Institute of Mathematics of the Romanian Academy; Daniel Onofrei - University of Houston).

<http://imar.ro/ams-ro2013/CalcVarPDE.php>

http://www.ams.org/meetings/international/2193_program_ss8.html#title

- **Special Session on Analysis at Le 12ème Colloque Franco-Roumain en Mathématiques Appliquées**, August 25-30, 2014, University of Lyon, Lyon, France (co-organized with Daniel Beltiță - Institute of Mathematics of the Romanian Academy; Emmanuel Russ - Joseph Fourier University, Grenoble).

<http://cfr2014.univ-lyon1.fr/>

- **Happy PDE's Days**, December 8-9, 2016, "Simion Stoilow" Institute of Mathematics of the Romanian Academy, Bucharest, Romania (co-organized with Liviu Ignat - "Simion Stoilow" Institute of Mathematics of the Romanian Academy).

<http://www.imar.ro/~dtimotin/Ignat/afisHappyPDE.html>

- **Workshop on Pure and Applied Analysis**, October 21, 2017, University of Craiova, Craiova, Romania (co-organized with Cristian Vladimirescu - University of Craiova).

<https://sites.google.com/site/workshoppaa2017/>

- **Atelier de Travail en Equations aux Dérivées Partielles**, December 7-8, 2017, "Simion Stoilow" Institute of Mathematics of the Romanian Academy, Bucharest, Romania (co-organized with Liviu Ignat - "Simion Stoilow" Institute of Mathematics of the Romanian Academy).

<http://imar.ro/CFM/PDE-Dec-2017.pdf>

10 Member in scientific committees of conferences

- **First Romanian Itinerant Seminar on Mathematical Analysis and its Applications (RISMAA)**, April 20-21, 2018, Babes-Bolyai University, Cluj-Napoca, Romania.

<http://www.cs.ubbcluj.ro/1st-rismaa/>

- **International conference on applied mathematics and numerical methods (second edition)**, October 19-20, 2018, University of Craiova, Craiova, Romania.

<http://cis01.central.ucv.ro/ICAMNM/>

Marian Bocea

Curriculum Vitae

Contact Information

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Education

Ph.D. in Mathematical Sciences, Carnegie Mellon University, May 2004

M.S. in Mathematical Sciences, Carnegie Mellon University, December 2000

Ph.D. in Mathematics, University of Craiova, Romania, July 2000

M.S. in Applied Mathematics, University of Craiova, Romania, June 1997

B.S., University of Craiova, Romania, June 1996

Experience

Program Director, Applied Mathematics, Division of Mathematical Sciences, National Science Foundation (2017 -)

Associate Professor, Department of Mathematics and Statistics, Loyola University Chicago (2015 -) on leave

Assistant Professor, Department of Mathematics and Statistics, Loyola University Chicago (2011 - 2015)

Assistant Professor, Department of Mathematics, North Dakota State University (2006 - 2011)

Burgess Assistant Professor, Department of Mathematics, University of Utah (2004 - 2006)

Research Interests

Analysis of Partial Differential Equations, Calculus of Variations. Applications to Materials Science: thin films of martensitic materials, shape memory alloys, dielectric breakdown, polycrystal plasticity, granular media, microstructure in crystalline solids, material instabilities, fracture and defects in solids, ferroelectric and ferromagnetic materials, phase transitions, homogenization and optimal design of composite materials.

Research Funding (U.S. National Science Foundation)

- NSF Award No. DMS-1515871 *Topics in Optimal Transport and Nonlinear Partial Differential Equations* (2015–2017)
- NSF Award No. DMS-1156393 *Modern Methods in Calculus of Variations with Applications to Polycrystalline and Granular Materials* (2011–2015)
- NSF Award No. DMS-0806789 *Variational Methods for Some Problems in Materials Science* (2008–2011)

- [35] M. Bocea and M. Mihăilescu, On the monotonicity of the principal frequency of the p -Laplacian. *Submitted* (2018).
- [34] M. Bocea and M. Mihăilescu, On the existence and uniqueness of exponentially harmonic maps and some related problems. Accepted for publication in *Israel Journal of Mathematics* (2018).
- [33] M. Bocea and M. Mihăilescu, Minimization problems for inhomogeneous Rayleigh quotients. Accepted for publication in *Communications in Contemporary Mathematics*. DOI: <https://doi.org/10.1142/S0219199717500742>
- [32] E.N. Barron, M. Bocea, and R.R. Jensen, Viscosity solutions of stationary Hamilton-Jacobi equations and minimizers of L^∞ functionals. *Proceedings of the American Mathematical Society* Vol. **145** (2017), No. 12, 5257-5265.
- [31] M. Bocea and M. Mihăilescu, On a family of inhomogeneous torsional creep problems. *Proceedings of the American Mathematical Society* Vol. **145** (2017), No. 10, 4397-4409.
- [30] E.N. Barron, M. Bocea, and R.R. Jensen, Duality for the L^∞ optimal transport problem. *Transactions of the American Mathematical Society* Vol. **369** (2017), No. 5, 3289-3323.
- [29] M. Bocea and M. Mihăilescu, Existence of nonnegative viscosity solutions for a class of problems involving the ∞ -Laplacian. *Nonlinear Differential Equations and Applications (NoDEA)* Vol. **23** (2016), No. 2, 1-21.
- [28] M. Bocea and M. Mihăilescu, Γ -convergence of inhomogeneous functionals in Orlicz-Sobolev spaces. *Proceedings of the Edinburgh Mathematical Society* Vol. **58** (2015), 287-303.
- [27] F. Abdullayev, M. Bocea, and M. Mihăilescu, A variational characterization of the effective yield set for ionic polycrystals. *Applied Mathematics and Optimization* Vol. **69** (2014), 487-503.
- [26] M. Bocea and M. Mihăilescu, Eigenvalue problems in Orlicz-Sobolev spaces for rapidly growing operators in divergence form. *Journal of Differential Equations* Vol. **256** (2014), 640-657.
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- [22] F. Abdullayev and M. Bocea, The Robin eigenvalue problem for the $p(x)$ -Laplacian as $p \rightarrow \infty$. *Nonlinear Analysis* Vol. **91** (2013), 32-45.
- [21] M. Bocea, M. Mihăilescu, M. Pérez-Llanos, and J.D. Rossi, Models for growth of heterogeneous sandpiles via Mosco convergence. *Asymptotic Analysis* Vol. **78** No. 1-2 (2012), 11-36.
- [20] M. Bocea and M. Mihăilescu, A Caffarelli-Kohn-Nirenberg inequality in Orlicz-Sobolev spaces and applications. *Applicable Analysis* Vol. **91** No. 9 (2012), 1649-1659.
- [19] M. Bocea and C. Popovici, Variational principles in L^∞ with applications to antiplane shear and plane stress plasticity. *Journal of Convex Analysis* Vol. **18** No. 2 (2011), 403-416.
- [18] M. Bocea, M. Mihăilescu, and C. Popovici, On the asymptotic behavior of variable exponent power-law functionals and applications. *Ricerche di Matematica* Vol. **59** No. 2 (2010), 207-238.

- [17] M. Bocea and M. Mihăilescu, Γ -convergence of power-law functionals with variable exponents. *Nonlinear Analysis* Vol. **73** (2010), 110-121.
- [16] M. Bocea and C. Popovici, Plane stress polycrystal plasticity as a limiting case of the power-law model via Γ -convergence. *Int. Journal of Pure and Applied Mathematics* Vol. **54** No. 4 (2009), 609-619.
- [15] M. Bocea, A justification of the theory of martensitic thin films in the absence of an interfacial energy. *Journal of Mathematical Analysis and Applications* Vol. **342** No. 1 (2008), 485-496.
- [14] M. Bocea and V. Nesi, Γ -convergence of power-law functionals, variational principles in L^∞ , and applications. *SIAM Journal on Mathematical Analysis* Vol. **39** No. 5 (2008), 1550-1576.
- [13] M. Bocea, Young measure minimizers in the asymptotic analysis of thin films. *Electronic Journal of Differential Equations* Vol. **15** (2007), 41-50.
- [12] M. Bocea and I. Fonseca, A Young measure approach to a nonlinear membrane model involving the bending moment. *Royal Society of Edinburgh Proceedings A* Vol. **134** No. 5 (2004), 845-883.
- [11] P.D. Panagiotopoulos, M. Bocea and V. Rădulescu, Inequality problems with non locally Lipschitz energy functional: existence results and applications to nonsmooth mechanics. *Applicable Analysis* Vol. **82** No. 6 (2003), 561-574.
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- [9] M. Bocea, D. Motreanu and P.D. Panagiotopoulos, Multiple solutions for a double eigenvalue hemivariational inequality on a spherelike manifold. *Nonlinear Analysis* Vol. **42** No. 5 (2000), 737-749.
- [8] M. Bocea, P.D. Panagiotopoulos and V. Rădulescu, Double eigenvalue hemivariational inequalities with non-locally Lipschitz energy functionals. *Communications in Applied Nonlinear Analysis* Vol. **6** No. 4 (1999), 17-29.
- [7] M. Bocea, Existence of solutions for hemivariational inequalities with non-Lipschitz energy functionals. *Revue Roumaine de Mathématiques Pures et Appliquées* Vol. **44** No. 3 (1999), 315-325.
- [6] M. Bocea, P.D. Panagiotopoulos and V. Rădulescu, A perturbation result for a double eigenvalue hemivariational inequality with constraints and applications. *Journal of Global Optimization* Vol. **14** No. 2 (1999), 137-156.
- [5] M. Bocea and V. Rădulescu, An eigenvalue Dirichlet problem with weight and L^1 data. *Mathematische Nachrichten* Vol. **198** (1999), 5-17.
- [4] M. Bocea and V. Rădulescu, Multivalued problems with strong resonance at infinity and L^1 data. *Revue Roumaine de Mathématiques Pures et Appliquées* Vol. **43** No. 5-6 (1998), 533-540.
- [3] M. Bocea, Multiple solutions for a class of eigenvalue problems involving a monotone operator in hemivariational inequalities. *Applicable Analysis* Vol. **65** No. 3-4 (1997), 395-407.
- [2] M. Bocea and V. Rădulescu, Problèmes elliptiques avec non-linéarité discontinue et second membre L^1 . *Comptes Rendus de l'Académie des Sciences Paris - Série I - Mathématique* Vol. **324** No. 2 (1997), 169-172.
- [1] M. Bocea, Sur quelques problèmes d'analyse fonctionnelle. *Annals of the University of Craiova* Vol. **21** (1995), 51-58.

Students

• FARHOD ABDULLAYEV, Ph.D. 2013

Ph.D. Thesis: *Variational Methods for Polycrystal Plasticity and Related Topics in Partial Differential Equations*

First position after Ph.D.: Postdoctoral Scholar, Mathematical Sciences, Worcester Polytechnic Institute (2013-2016)

• **FARHOD ABDULLAYEV, M.Sc. 2009**

M.S. Thesis: *Lower semicontinuity and existence of minimizers for supremal functionals*

• **AZIZ TAKHIROV, M.Sc. 2009**

M.S. Thesis: *Almost 1-harmonic functions and eigenvalue problems for the 1-Laplace operator*

• **MARK SPANIER, B.Sc. 2010**

Senior Thesis: *A Formal Derivation of the Aronsson Equations for Symmetrized Gradients*; published in Vol. 3 (2010) of *SIAM Undergraduate Research Online (SIURO)* <http://www.siam.org/students/siuro/>

Colloquia, Conferences, and Seminar Talks

- Applied Analysis Seminar, Pennsylvania State University, September 12, 2018
- 2017 SIAM Annual Meeting, Pittsburgh, PA, July 10-14, 2017
- Workshop on *Analysis, PDEs, & Applied Mathematics*, "Simion Stoilow" Institute of Mathematics, Romanian Academy, Bucharest, ROMANIA, May 18-19, 2017
- *Colloquium*, Department of Mathematics, University of Craiova, ROMANIA, May 15, 2017
- 2017 Joint Mathematics Meetings, Atlanta, GA, January 4-7, 2017
- AMS Special Session *Nonlinear Boundary Value Problems*, 2016 Fall Southeastern Sectional Meeting, North Carolina State University, Raleigh, NC, November 12-13, 2016
- Minisymposium on *Limiting Strain Behaviour of Elastic Materials*, SIAM Conference on Mathematical Aspects of Materials Science (MS16), Philadelphia, PA, May 8-12, 2016
- CNA Seminar, Center for Nonlinear Analysis, Carnegie Mellon University, Pittsburgh, PA, March 22, 2016
- AMS Special Session *Analysis of Differential and Integral Equations*, 2015 Fall Southeastern Sectional Meeting, University of Memphis, Memphis, TN, October 17-18, 2015
- *Ordinary and Partial Differential Equations, Variational Methods, and Optimal Control*, Eighth Congress of Romanian Mathematicians, Iași, ROMANIA, June 26 - July 1, 2015
- AMS Special Session on *Nonlinear PDEs and Variational Methods*, 2015 Spring Western Sectional Meeting, University of Nevada, Las Vegas, April 18-19, 2015
- AMS Special Session on *Calculus of Variations, Nonlinear Partial Differential Equations, and Applications*, 2015 Spring Central Sectional Meeting, Michigan State University, East Lansing, MI, March 14-15, 2015
- *Pan-American Advanced Study Institute: Frontiers in Particulate Media*, La Plata, ARGENTINA, August 11-22, 2014
- SIAM Session on *Partial Differential Equations*, 2014 SIAM Annual Meeting, Chicago, IL, July 7-11, 2014
- Minisymposium *Relaxation with constraints and L^∞ variational problems*, Eighth European Conference on Elliptic and Parabolic Problems, Gaeta, ITALY, May 26-30, 2014
- *Variational Methods and Optimization Seminar*, Department of Mathematics, Universidad de Castilla-La Mancha, Ciudad Real, SPAIN, May 20, 2014
- AMS Special Session on *Recent Advances in Homogenization and Model Reduction Methods for Multiscale Phenomena*, 2014 Joint Mathematics Meetings, Baltimore, MD, January 15-18, 2014
- SIAM Conference on *Analysis of Partial Differential Equations*, Orlando, FL, December 7-10, 2013
- Conference on *Nonlinear Partial Differential Equations* on the occasion of J. Mazón's 60th birthday, Valencia, SPAIN, July 1-5, 2013
- AMS Special Session on *Local and Nonlocal Models in Wave Propagation and Diffusion*, Joint International Meeting of the AMS and the Romanian Mathematical Society, Alba Iulia, ROMANIA, June 27-30, 2013
- SIAM SEAS Conference, University of Tennessee & Oak Ridge National Laboratory, March 22-24, 2013
- AMS Session on *Analysis*, 2013 Joint Mathematics Meetings, San Diego, CA, January 9-12, 2013
- Special Session *Modèles mathématiques et numériques en mécanique des solides*, XIème Colloque Franco-Roumain de Mathématiques Appliquées, Bucharest, ROMANIA, August 24-30, 2012
- SIAM Session on *Partial Differential Equations*, 2012 SIAM Annual Meeting, Minneapolis, MN, July 9-13, 2012
- Special Session on *Applied Analysis and Dynamics in Engineering and Sciences*, 9th AIMS Conference on Dynamical Systems, Differential Equations and Applications, Orlando, FL, July 1-5, 2012
- The 5th Symposium on *Analysis and PDEs*, Purdue University, May 20-23, 2012
- ICOMAS-2012, University of Memphis, Memphis, TN, May 15-18, 2012
- *Colloquium*, Department of Mathematics, Worcester Polytechnic Institute, April 5, 2012
- AMS Special Session on *Local Field Properties, Microstructure, and Multiscale Modeling of Heterogeneous Media*,

2012 Joint Mathematics Meetings, Boston, MA, January 4-7, 2012

- SIAM Session on *Phase Transitions in Material Sciences*, SIAM Conference on Analysis of Partial Differential Equations, San Diego, CA, November 14-17, 2011
- AMS Special Session on *Applied Analysis*, 2011 Fall Western Section Meeting, University of Utah, Salt Lake City, UT, October 22-23, 2011
- Symposium on *Defect Evolution in Materials*, 48th Annual Technical Conference of Society of Engineering Sciences, Northwestern University, Evanston, IL, October 12-14, 2011
- *PDE Seminar*, Department of Mathematics, University of Houston, September 23, 2011
- *7th International Congress on Industrial and Applied Mathematics*, Vancouver, CANADA, July 18-22, 2011
- *Seventh Congress of Romanian Mathematicians*, Braşov, ROMANIA, June 29-July 5, 2011
- Workshop on *Macroscopic Modeling of Materials with Fine Structure*, Center for Nonlinear Analysis, Carnegie Mellon University, Pittsburgh, PA, May 26-28, 2011
- *Recent Developments on L^∞ Variational Problems and Associated Nonlinear Partial Differential Equations*, University of Kentucky, Lexington, KY, May 12-14, 2011
- AMS Special Session on *The Mathematics of Modeling Multiscale Heterogeneous Media*, 2011 Joint Mathematics Meetings, New Orleans, LA, January 6-9, 2011
- *International Congress of Mathematicians*, Hyderabad, INDIA, August 19-27, 2010
- Conference on *Variable Exponent Analysis*, Oulu, FINLAND, June 28-July 2, 2010
- Special Session *Applied Analysis and Dynamics in Engineering and Sciences*, AIMS Conference on Dynamical Systems, Differential Equations & Applications, Dresden, GERMANY, May 25-28, 2010
- *Applied Mathematics Seminar*, University of Utah, March 2010
- AMS Special Session on *Degenerate and Singular Elliptic Partial Differential Equations*, 2010 Joint Mathematics Meetings, San Francisco, CA, January 13-16, 2010
- Minisymposium on *Asymptotic Analysis and Behavior of Partial Differential Equations*, SIAM Conference on Analysis of Partial Differential Equations, Miami, FL, December 7-10, 2009
- Workshop on *Energy-Driven Systems*, Carnegie Mellon University, Pittsburgh, PA, August 27-29, 2009
- Conference on *Nonlinear problems for Δ_p and Δ* , Linköping, SWEDEN, August 10-14, 2009
- *Colloquium*, "Simion Stoilow" Institute of Mathematics, Romanian Academy, Bucharest, ROMANIA, June 2009
- *Civil Engineering Seminar*, North Dakota State University, May 2009
- *Colloquium*, Department of Mathematics, Worcester Polytechnic Institute, February 2009
- AMS Session on *Calculus of Variations and Control*, 2009 JMM, Washington, DC, January 5-8, 2009
- *PDE Seminar*, School of Mathematics, Georgia Institute of Technology, September 2008
- SIAM Session on *Elasticity*, SIAM Conference on *Mathematical Aspects of Materials Science*, Philadelphia, PA, May 11-14, 2008
- AMS Session *Analysis and Ordinary Differential Equations*, 2008 JMM, San Diego, CA, January 6-9, 2008
- Minisymposium on *Multiscale Phenomena in Material Sciences*, SIAM Conference on Analysis of Partial Differential Equations, Mesa, AZ, December 10-12, 2007
- Minisymposium on *Energy Based Approaches to Nonlinear PDEs*, SIAM Conference on Analysis of Partial Differential Equations, Mesa, AZ, December 10-12, 2007
- Workshop on *Modeling, Analysis and Simulation of Multiscale Nonlinear Systems*, Oregon State University, Corvallis, OR, June 25-29, 2007
- *Colloquium*, Department of Mathematics, Worcester Polytechnic Institute, December 2006
- *A Conference on Applied Analysis on the Occasion of the 65th Birthday of David Kinderlehrer*, Carnegie Mellon University, Pittsburgh, PA, October 19-21, 2006
- AMS Special Session on *Nonconvex Variational Problems: Recent Advances and Applications*, Fall 2006 Western Section Meeting, Salt Lake City, UT, October 7-8 2006
- Minisymposium on *Microstructures and PDE: New Challenges and New Methods*, SIAM Conference on Analysis of Partial Differential Equations, Boston, MA, July 10-14, 2006
- AMS Session on *Partial Differential Equations*, 2006 JMM, San Antonio, TX, January 12-15, 2006
- 56th Midwest PDE Seminar, University of Notre Dame, December 3-4, 2005
- Conference on *Partial Differential Equations and Applications*, University of Florida, November 2005
- AMS Special Session on *Calculus of Variations*, Fall 2005 Central Section Meeting, Lincoln, NE, October 21-23, 2005
- *Graduate Colloquium*, Department of Mathematics, University of Utah, October 2005
- *Frontiers of Applied Analysis - A Conference on the Occasion of the 15th Anniversary of the Center for Nonlinear Analysis*, Carnegie Mellon University, September 8-10, 2005
- IMA Workshop: *Effective Theories for Materials and Macromolecules*, Minneapolis, MN, June 8-11, 2005

- VIGRE Mini-course: *Nonconvex Variational Problems and Applications*, University of Utah, May 2005
- Sixth MSU-UAB Conference on *Differential Equations and Computational Simulations - Dedicated to Louis Nirenberg and Klaus Schmitt for their contributions to Mathematics*, Mississippi State University, May 2005
- *Colloquium*, Department of Mathematics, University of Utah, February 2005
- AMS Session on *Analysis*, Joint Mathematics Meetings, Atlanta, GA, January 5-8, 2005
- *Undergraduate Colloquium*, Department of Mathematics, University of Utah, November 2004
- *Applied Mathematics Seminar*, University of Utah, September 2004
- SIAM Conference on *Mathematical Aspects of Materials Science*, Los Angeles, CA, May 23-26, 2004
- AMS Special Session on *Nonlinear PDEs and Variational Problems*, 2004 JMM, Phoenix, AZ, January 7-10, 2004
- Symposium on *Analysis and PDEs*, Purdue University, May 23-26, 2003
- *Pan American Advanced Studies Institute*, Santiago, CHILE, January 6-18, 2003
- SIAM 50th Anniversary and 2002 Annual Meeting, Philadelphia, July 8-12, 2002
- *Nonlinear Differential Equations, Mechanics and Bifurcation - A conference in honor of David G. Schaeffer*, Duke University, May 20-22, 2002
- *Progress in Partial Differential Equations*, Royal Society of Edinburgh, U.K., July 2001
- *Partial Differential Equations & Kinetic Theory Seminar*, Carnegie Mellon University, February 2001
- *Mathematical Challenges of the 21st Century*, University of California at Los Angeles, August 7-12, 2000
- *Applied Mathematics Colloquium*, Universidad Complutense, Madrid, SPAIN, April 1999

Awards, Fellowships, Grants

- NSF Grant No. DMS-1515871: *Topics in Optimal Transport and Nonlinear Partial Differential Equations* [with Robert Jensen (PI) and Nick Barron (co-PI)], 2015-2017; \$362,999
- American Institute of Mathematics Seed Grant for the Chicago Math Teachers' Circle [with Peter Tingley (co-PI) and John Del Greco (co-PI)], 2015-2016; \$2,000
- Summer Research Stipend Award, Loyola University Chicago, Summer 2015
- NSF Grant No. DMS-1156393/DMS-1109138: *Modern Methods in Calculus of Variations with Applications to Polycrystalline and Granular Materials*, 2011-2015; \$170,781
- 2010 College of Science and Mathematics Ambassadors Excellence Award, North Dakota State University
- ICM 2010 Travel Award, American Mathematical Society, 2010
- NSF Grant No. DMS-0806789: *Variational Methods for Some Problems in Materials Science*, 2008-2011; \$66,500
- SIAM Early Career Travel Award, SIAM Conference on *Mathematical Aspects of Materials Science*, Philadelphia, PA, May 2008
- DOE-NSF Travel Grant, Workshop on *Modeling, Analysis and Simulation of Multiscale Nonlinear Systems*, Oregon State University, Corvallis, OR, June 2007
- 2005-2006 Outstanding Postdoctoral Instructor Award, Department of Mathematics, University of Utah
- Burgess Award, University of Utah, 2004-2006
- Research Fellowship, Department of Mathematical Sciences, Carnegie Mellon University, 2003-2004
- 2002 SIAM Student Travel Award
- Royal Society of Edinburgh Travel Grant, *Progress in Partial Differential Equations*, Edinburgh, U.K., July 2001
- E.U. Travel Grant, Instructional Conference in *Nonlinear Partial Differential Equations*, Edinburgh, U.K., January 2001
- E.U. Travel Grant, *Selected Issues in the Mechanics of Crystalline Solids*, Padova, ITALY, October 2000
- AMS Travel Grant, *Mathematical Challenges of the 21st Century*, UCLA, August 2000
- E.U. Travel Grant, *New Mathematical Methods in Continuum Mechanics*, Crete, GREECE, July 2000
- Visiting Fellow, Universidad Complutense, Madrid, SPAIN, March-May 1999
- TEMPUS Fellow (E.U.), Aristotle University of Thessaloniki, GREECE, March-June 1997
- Doctoral Fellowship, Department of National Education (ROMANIA), October 1996-July 1999

Teaching Experience

Graduate courses

- MATH 488 Partial Differential Equations - Spring 2015, Fall 2012, Loyola University Chicago
- MATH 767 Topics in Applied Mathematics: Variational Problems in L^∞ - Fall 2010, NDSU
- MATH 785 Partial Differential Equations II - Spring 2010, Spring 2008, NDSU
- MATH 784 Partial Differential Equations I - Fall 2009, Fall 2007, NDSU
- MATH 767 Topics in Applied Mathematics: Homogenization and Optimal Design - Fall 2008, NDSU
- MATH 689 Numerical Analysis II - Spring 2007, NDSU

- MATH 688 Numerical Analysis I - Fall 2006, NDSU
- MATH 683 Partial Differential Equations - Spring 2011, Spring 2009, NDSU
- MATH 7280 Operator Theory - Spring 2006, University of Utah
- MATH 6880 Topics in Applied Mathematics - Fall 2005, University of Utah

Undergraduate courses

- MATH 353 Introductory Complex Analysis - Fall 2013, Loyola University Chicago
- MATH 352 Introduction to Real Analysis II - Spring 2017, Loyola University Chicago
- MATH 351 Introduction to Real Analysis I - Fall 2016, Spring 2013, Loyola University Chicago
- MATH 304 Introduction to Probability - Fall 2015, Loyola University Chicago
- MATH 277 Problem Solving Seminar - Fall 2015, 2014, 2013, Spring 2013, Loyola University Chicago
- MATH 264 Ordinary Differential Equations - Spring 2016, Spring 2013, Loyola University Chicago
- MATH 263 Multivariable Calculus - Fall 2015, Fall 2012, Loyola University Chicago
- MATH 201 Elementary Number Theory - Fall 2014, Loyola University Chicago
- MATH 162 Calculus II - Spring 2017, Fall 2014, Spring 2012, Loyola University Chicago
- MATH 161 Calculus I - Fall 2016, Fall 2011, Loyola University Chicago
- MATH 131 Applied Calculus I - Spring 2012, Fall 2011, Loyola University Chicago
- MATH 118 Precalculus II - Spring 2016, Spring 2015, Fall 2013, Loyola University Chicago
- MATH 259 Multivariate Calculus - Spring 2011, Fall 2010, Spring 2010, NDSU
- MATH 166 Calculus II - Fall 2009, NDSU
- MATH 265 Calculus III - Fall 2007, Spring 2007, Fall 2006, NDSU
- MATH 266 Introduction to Differential Equations - Fall 2008, Spring 2008, NDSU
- MATH 488 Numerical Analysis I - Fall 2006, NDSU (taught with MATH 688)
- MATH 483 Partial Differential Equations - Spring 2011, Spring 2009, NDSU (taught with MATH 683)
- MATH 3210 Foundations of Analysis I - Summer 2006, Spring 2005, University of Utah
- MATH 1010 Intermediate Algebra - Spring 2006, University of Utah
- MATH 3220 Foundations of Analysis II - Summer 2005, University of Utah
- MATH 2280 Introduction to Differential Equations - Fall 2004, University of Utah
- 21-111 Calculus for Humanities - Summer 2004, Carnegie Mellon University
- 21-127 Concepts of Mathematics - Spring 2003, Summer 2003, Carnegie Mellon University
- 21-259 Calculus in Three Dimensions - Summer 2002, Carnegie Mellon University
- 21-115/116 Differential and Integral Calculus - Summer 2001, Carnegie Mellon University
- 21-260 Differential Equations - Summer 2000, Carnegie Mellon University

Seminars Organized

- Analysis Seminar (co-organizer), Fall 2011 - Spring 2017, Loyola University Chicago
- Applied Mathematics Seminar, Spring 2010, Fall 2008, Spring 2008, Fall 2007, NDSU
- Analysis Seminar (co-organizer), Spring 2006, University of Utah
- Differential Equations Seminar, Fall 2005, University of Utah

Service at Loyola University Chicago

- Loyola Undergraduate Research & Engagement Symposium, Evaluator (oral presentations), 2016, 2014, 2013
- Department of Mathematics & Statistics Committee on Applied Mathematics, AY 2016-2017, AY 2015-2016
- Mathematics Hiring Committee, Chair, Department of Mathematics & Statistics, AY 2014-2015
- Chicago Area Undergraduate Research Symposium, Judge, April 2014
- Loyola Undergraduate Research Symposium, Judge, April 2012
- College of Arts and Sciences Academic Council, Member, Fall 2012 - Spring 2017
- College of Arts and Sciences Curriculum Committee, Member, Fall 2012 - Spring 2017
- Department of Mathematics & Statistics Teaching Standardization Committee, Member, AY 2014-2015
- Department of Mathematics & Statistics Capstone Committee, Member, AY 2013-2014, AY 2012-2013
- Department of Mathematics & Statistics Elementary Program Committee, Member, AY 2012-2013
- Department of Mathematics & Statistics Tenure-Track Hiring Committee, Member, AY 2011-2012

Professional Activities

- Panelist for the National Science Foundation, 2017

- Co-organizer (with Nick Barron, Robert Jensen, and Brian Seguin, Loyola University Chicago) of the *78th Midwest PDE Seminar* at Loyola University Chicago, Chicago, IL, October 15-16, 2016
- Panelist for the National Science Foundation, 2016
- Co-organizer (with Nick Barron and Robert Jensen, Loyola University Chicago) of the AMS Special Session on *Nonlinear PDEs and Calculus of Variations*, Central Fall Sectional Meeting of the American Mathematical Society, Loyola University Chicago, Chicago, IL, October 3-4, 2015
- Panelist for the National Science Foundation, 2014 (two panels)
- Ad-hoc reviewer for the CAREER program of the National Science Foundation, 2014
- Co-organizer (with Bogdan Vernescu, Worcester Polytechnic Institute) of the AMS Special Session on *Mathematical Models in Materials Science and Engineering*, Joint International Meeting of the American Mathematical Society and the Romanian Mathematical Society, Alba Iulia, ROMANIA, June 27-30, 2013
- Co-organizer (with Liviu Ignat, Institute of Mathematics of the Romanian Academy, Mihai Mihăilescu, University of Craiova, Romania, and Daniel Onofrei, University of Houston) of the AMS Special Session on *Calculus of Variations and Partial Differential Equations*, Joint International Meeting of the American Mathematical Society and the Romanian Mathematical Society, Alba Iulia, ROMANIA, June 27-30, 2013
- Panelist for the National Science Foundation, 2013
- Chair of SIAM Session on *Topics in Analysis*, SIAM SEAS Conference, University of Tennessee & Oak Ridge National Laboratory, March 22-24, 2013
- Chair of AMS Session on *Analysis*, 2013 Joint Mathematics Meetings, San Diego, CA, January 9-12, 2013
- Organizer of the AMS Special Session on *Recent Advances and New Challenges in Applied Analysis*, 2013 Joint Mathematics Meetings, San Diego, CA, January 9-12, 2013
- Chair of SIAM Session on *Partial Differential Equations*, SIAM Annual Meeting, Minneapolis, MN, July 9-13, 2012
- Panelist for the National Science Foundation, 2012
- Co-organizer (with Nick Barron, Rafal Goebel, and Bob Jensen, Loyola University Chicago) of the Minisymposium *Calculus of Variations in L^∞ and Aronsson Equations*, SIAM Conference on Analysis of Partial Differential Equations, San Diego, CA, November 14-17, 2011
- Co-organizer (with Mihai Mihăilescu, University of Craiova, Romania) of the AMS Special Session on *Applied Analysis*, 2011 Fall Western Section Meeting, Salt Lake City, UT, October 22-23, 2011
- Co-organizer (with Daniel Onofrei, University of Utah) of the Minisymposium *Multiscale Phenomena in Calculus of Variations and Inverse Problems*, ICIAM 2011 - 7th International Congress on Industrial and Applied Mathematics, Vancouver, British Columbia, CANADA, July 18-22, 2011
- Panelist for the National Science Foundation, 2010
- Co-organizer (with Cristina Popovici, NDSU) of the AMS Special Session *Degenerate and Singular Elliptic Partial Differential Equations*, 2010 Joint Mathematics Meetings, San Francisco, CA, January 13-16, 2010
- Co-chair of AMS Session *Calculus of Variations and Control*, 2009 Joint Mathematics Meetings, Washington, DC, January 5-8, 2009
- Chair of AMS Session on *Analysis and Ordinary Differential Equations*, 2008 Joint Mathematics Meetings, San Diego, CA, January 6-9, 2008
- Member of the American Mathematical Society's Committee on Meetings and Conferences Focus Group, San Diego, CA, January 2008
- Chair of SIAM Session on *Nonlinear Waves and Turbulence*, SIAM Conference on Analysis of PDEs, Mesa, AZ, December 10-12, 2007
- Co-organizer (with Cristina Popovici, NDSU) of the AMS Special Session on *Calculus of Variations and Nonlinear PDE: Theory and Applications*, 2007 JMM, New Orleans, LA, January 5-8, 2007
- Co-organizer (with Andrej Cherkaev, University of Utah) of AMS Special Session on *Nonconvex Variational Problems: Recent Advances and Applications*, 2006 Fall Western Section Meeting, Salt Lake City, UT, October 7-8, 2006
- Reviewer for *Mathematical Reviews* (since 2005)
- Referee for: *Advanced Nonlinear Studies, Advances in Calculus of Variations, Archive for Rational Mechanics and Analysis, Boundary Value Problems, Complex Variables and Elliptic Equations, ESAIM: Control, Optimisation and Calculus of Variations, International Journal of Mathematics and Mathematical Sciences, Journal of Elasticity, Journal of Global Optimization, Journal of Mathematical Analysis and Applications, Le Matematiche, Materials Science and Engineering Series A, Nonlinear Analysis, Nonlinear Differential Equations and Applications (NoDEA), Proceedings of the American Mathematical Society, Results in Mathematics, SIAM Journal on Applied Mathematics, SIAM Journal on Imaging Sciences, Zeitschrift für Angewandte Mathematik und Physik*

CURRICULUM VITAE

IGNAT, Ioan Liviu

Birthday: 17.06.1978

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lignat

1. Education

Habilitation Thesis, IMAR, May 31, 2013

Ph.D., Universidad Autónoma de Madrid, September 15, 2006

Bachelor's degree, Universitatea din Craiova, Romania, July, 2001

Student of University of Pittsburgh, USA, 09/1998-05/1999.

2. Profesional Experience

Researcher CS-I, Institute of Mathematics of the Romanian Academy, 01/014/2016 –

Associate Professor, University of Bucharest, 01/10/2014 – 31/03/2016

Researcher CS-II, Institute of Mathematics of the Romanian Academy, 01/01/2014 – 31/03/2016

Group Leader of Analysis and PDE research line, Basque Center for Applied Mathematics, Spain, 12/2012-09/2013

Researcher, Basque Center for Applied Mathematics, 30/10/2011-30/09/2013

Researcher CS-III, Institute of Mathematics of the Romanian Academy, 01/05/2008 – 31/12/2013

Researcher, Institute of Mathematics of the Romanian Academy, 01/07/2006-31/04/2008

Assistant Professor, Universidad Autónoma de Madrid, 01/04/2006-31/09/2007

3. Research visits to foreign centers

(a) University of Alicante, Spain, 1-11/07/2017, 21-27/01/2018, 16-26/07/2018

(b) University of Buenos Aires, Argentina, 18-29/04/2016

(c) Centre International de Rencontres Mathematique, Lumini, France, 04–08/04/2016, 14-21/02/2009

(d) University of Puerto Rico, 2 weeks in 2015

(e) University of Evry, 2 weeks in 2014

(f) Basque Center for Applied Mathematics, various visits 11/2011-09/2013, 1 month 2008, 1 month 2009, 2 weeks in 2016, 2017

(g) Universidad Autonoma de Madrid, 1 week in 2013, 2 months 2008

(h) University of Evry, France, 2 weeks in 2012

(i) Universidad de Alicante, 1 week in 2012

(j) ICMAT, Madrid, Spain, 2 weeks in 2012,

(k) University of Rio de Janeiro, 3-16 April, 2011

(l) Basque Center for Applied Mathematics, 1 month 2010

(m) Institute Henry Poincare, 1 month 2010

(n) Isaac Newton Institute, Cambridge, 4 weeks 2007

(o) University of Tunis, 2 weeks 2004

4. Publications

- (1) Andreea Grecu, Liviu I. Ignat, The Schrodinger Equation on a Star-Shaped Graph under General Coupling Conditions, <https://arxiv.org/abs/1711.10235>
- (2) Lucian Beznea, Liviu I. Ignat, Julio D. Rossi, From Gaussian estimates for nonlinear evolution equations to the long time behavior of branching, processes, submitted, <https://arxiv.org/abs/1703.02807>
- (3) Cristian M. Cazacu, Liviu I. Ignat and Ademir F Pazoto, Null Controllability of the Kuramoto-Sivashinsky Equation on star-shaped accepted SIAM SICON, <https://arxiv.org/abs/1611.04111>
- (4) Liviu I. Ignat and Diana Stan, Asymptotic behaviour for fractional diffusion-convection equations, *Journal of the London Mathematical Society*, 97, no. 2, (2018), 258-281
- (5) Liviu I. Ignat and Alejandro Pozo, A splitting method for the augmented Burgers equation, *BIT Numerical Mathematics*, BIT 58 (2018), no. 1, 73-102
- (6) Liviu I. Ignat and Alejandro Pozo, A semi-discrete large-time behavior preserving scheme for the augmented Burgers equation, *ESAIM Math. Model. Numer. Anal.* 51 (2017), no. 6, 2367-2398
- (7) Ignat, Liviu I. The dispersion property for Schrödinger equations. PDE's, dispersion, scattering theory and control theory, 59-67, *Semin. Congr.*, 30, Soc. Math. France, Paris, 2017
- (8) Cristian M. Cazacu, Liviu I. Ignat and Ademir F Pazoto, On the asymptotic behavior of a subcritical convection-diffusion equation with nonlocal diffusion, *Nonlinearity*, Volume 30, Number 8, (2017)
- (9) Ignat, Liviu I.; Ignat, Tatiana I.; Long-time behavior for a nonlocal convection diffusion equation. *J. Math. Anal. Appl.* 455 (2017), no. 1, 816-831
- (10) N. Beli, L. Ignat, E. Zuazua. Dispersion for 1-d Schrödinger and wave equation with BV coefficients, *Annales de l'Institut Henri Poincaré (C) Non Linear Analysis*, Volume 33, Issue 6, (2016), Pages 1473-1495
- (11) Liviu I. Ignat, Tatiana I. Ignat, Denisa Stancu-Dumitru. A compactness tool for the analysis of nonlocal evolution equations *SIAM J. Math. Anal.* 47 (2015), no. 2, 1330-1354
- (12) V. Banica, L. I. Ignat. Dispersion for the Schrödinger equation on the line with multiple Dirac delta potentials and on delta trees. *Anal. PDE* 7 (2014), no. 4, 903-927
- (13) Liviu I. Ignat, A. Pozo, E. Zuazua. Large time asymptotics, vanishing viscosity and numerics for 1-D scalar conservation laws. *Math. Comp.* 84 (2015), no. 294, 1633-1662
- (14) Liviu I. Ignat, Ademir Pazoto. Large time behaviour for a nonlocal diffusion - convection equation related with the gas dynamics. *Discrete Contin. Dyn. Syst.* 34 (2014), no. 9, 3575-3589.
- (15) Liviu I. Ignat, Damian Pinasco, Julio D. Rossi, and Angel San Antolin. Decay estimates for nonlinear nonlocal diffusion problems in the whole space. *J. Anal. Math.* 122 (2014), 375-401.
- (16) Liviu I. Ignat and Enrique Zuazua. Asymptotic expansions for anisotropic heat kernels. *J. Evol. Equ.* 13 (2013), no. 1, 1-20.
- (17) Liviu I. Ignat and Enrique Zuazua. Convergence rates for dispersive approximation schemes to nonlinear Schrödinger equations. *J. Math. Pures Appl.*, (9) 98 (2012), no. 5, 479-517.
- (18) Liviu I. Ignat, Julio D. Rossi, and Angel San Antolin. Lower and upper bounds for the first eigenvalue of nonlocal diffusion problems in the whole space. *Journal of Differential Equations*, 252(12):6429 - 6447, 2012.
- (19) Liviu I. Ignat, Ademir Pazoto and Lionel Rosier. Inverse problem for the heat equation and the Schrödinger equation on a tree. *Inverse Problems*, 28(015011), 2012.
- (20) Valeria Banica and Liviu I. Ignat. Dispersion for the Schrödinger equation on networks. *J. Math. Phys.*, 52(083703), 2011.
- (21) Liviu I. Ignat and Diana Stan. Dispersive properties for discrete Schrödinger equations. *Journal of Fourier Analysis and Applications*, 17(5):1035-1065, 2011.
- (22) Liviu I. Ignat, A splitting method for the nonlinear Schrödinger equation, *Journal of Differential Equations Vol. 250, Issue 7, 1 April 2011, pp. 3022-3046*
- (23) L.I. Ignat, Strichartz estimates for the Schrödinger Equation on a tree and applications, *SIAM Journal of Mathematical Analysis*, Vol. 42, No. 5, pp. 2041-2057, 2010.
- (24) L.I. Ignat and J.D. Rossi, Asymptotic expansions for nonlocal diffusion equations in L^q -norms for $1 \leq q \leq 2$. *Journal of Mathematical Analysis and Applications* 362 (2010), pp. 190-199.

- (25) L.I. Ignat and J.D. Rossi, Decay estimates for nonlocal problems via energy methods. *Journal de Mathématiques Pures et Appliquées*, (9) 92 (2009), no. 2, 163–187.
- (26) L.I. Ignat and E. Zuazua. Convergence of a two-grid algorithm for the control of the wave equation. *Journal of European Mathematical Society*, 11 (2009), no. 2, 351–391.
- (27) L.I. Ignat and E. Zuazua. Numerical dispersive schemes for the nonlinear Schrödinger equation. *SIAM Journal of Numerical Analysis*, 47 (2009), no. 2, 1366–1390..
- (28) L.I. Ignat and J.D. Rossi, Refined asymptotic expansions for nonlocal diffusion equations *Journal of Evolution Equations*, 8 (2008), no. 4, 614–629.
- (29) L.I. Ignat and J.D. Rossi, Asymptotic behaviour for a nonlocal diffusion equation on a lattice. *Z. Angew. Math. Phys.* 59 (2008), no. 5, 918–925.
- (30) L. I. Ignat and J.D. Rossi. *A nonlocal convection-diffusion equation.* *J. Functional Analysis*, 251(2) (2007), 399–437.
- (31) L.I. Ignat. Fully discrete schemes for the Schrödinger equation: Dispersive properties. *Math. Models Methods Appl. Sci.*, 17(4):567–591, 2007.
- (32) L.I. Ignat. Global Strichartz estimates for approximations of the Schrödinger equation. *Asymptotic Analysis*, 52:37–51, 2007.
- (33) L.I. Ignat and E. Zuazua. Dispersive properties of numerical schemes for nonlinear Schrödinger equations. In *Foundations of Computational Mathematics, Santander 2005. L. M. Pardo et al. eds*, volume 331, pages 181–207. London Mathematical Society Lecture Notes, 2006.
- (34) L.I. Ignat. Qualitative properties of a numerical scheme for the heat equation. Bermúdez de Castro, A. (ed.) et al., *Proceedings of ENUMATH 2005, the 6th European conference on numerical mathematics and advanced applications*, Santiago de Compostela, Spain, July 18–22, 2005. Springer. 593-600, 2006.
- (35) L.I. Ignat and E. Zuazua. A two-grid approximation scheme for nonlinear Schrödinger equations: dispersive properties and convergence. *C. R. Acad. Sci. Paris, Ser. I*, 341(6):381–386, 2005.
- (36) L.I. Ignat and E. Zuazua. Dispersive properties of a viscous numerical scheme for the Schrödinger equation. *C. R. Acad. Sci. Paris, Ser. I*, 340(7):529–534, 2005.
- (37) L. I. Ignat and C. Lefter and V. D. Radulescu, Minimization of the renormalized energy in the unit ball of R^2 . *Nieuw Arch. Wiskd.* (5) 1 (2000), no. 3, 278–280

5. Awards

- (1) "Dimitrie Pompeiu" prize of the Romanian Academy, 2009.
- (2) 2009 ANCS (National Authority for Scientific Research) prize for the best young researcher returned to Romania.
- (3) Honorable Mention, Putnam Competition, USA, 1998.
- (4) Silver Medal, International Mathematical Olympiad, Argentina, 1997.

6. PhD Students

- (1) Andreea Grecu, Univ. of Bucharest and IMAR, 2016 –

7. Former Students

- (1) Diana Stan (PhD at Universidad Autonoma de Madrid, actually postdoctoral student at Basque Center for Applied Mathematics), Scoala Normala Superioara Bucuresti, Master Thesis, 2010.
- (2) Cristian Gavrus, (PhD at Univ. of California Berkeley), Scoala Normala Superioara Bucuresti, Master Thesis, 2012.
- (3) Emilian Paraicu, Bachelor degree thesis, Univ. of Bucharest, 2015
- (4) Denisa Stancu Dumitru, postdoctoral student, IMAR, 2011- 2016.
- (5) Cristian Cazacu, postdoctoral student, IMAR, 2012- 2016.

8. Teaching

- (1) Harmonic Analysis and PDE, SNSB, 2017
- (2) Partial Differential Equations, University of Bucharest, 2013-2016
- (3) Nonlinear evolution equations, SNSB, 2014-2015
- (4) Numerical Methods for Partial Differential Equations, SNSB, 2010-2011
- (5) Numerical schemes for dispersive equations, February 08-12, 2010, BCAM, Bilbao, Spain
- (6) Evolution equations, SNSB, 2009-2010.
- (7) Evolution equations: dissipation and dispersion, SNSB, 2008-2009

9. Organizer/Coorganizer of scientific events

- (1) Workshop Transitions de phase et equations non locales, 25-27/04/2018, IMAR, Bucharest
- (2) Workshop 6th Edition Mathematical Analysis, 24-26/01/2018, Universidad de Alicante, <https://dmat.ua.es/en/activities/6th-edition-mathematical-analysis.html>
- (3) Happy PDEs Days, Bucharest, December 7-8, 2017, IMAR, Bucharest
- (4) Workshop for Young Researchers in Mathematics, Bucharest, May 17 - May 20, 2017,
- (5) Happy PDEs Days, Bucharest, December 8-9, 2016, IMAR, Bucharest
- (6) Workshop for Young Researchers in Mathematics, Constanța, May 19 - May 22, 2016,
- (7) Workshop for Young Researchers in Mathematics, Constanța, May 21 - May 24, 2015,
- (8) Workshop for Young Researchers in Mathematics, Constanța, May 22 - May 23, 2014,
- (9) Special Session: Calculus of Variations and Partial Differential Equations, Joint International Meeting of the AMS and the Romanian Mathematical Society, Organizers: Marian Bocea (Loyola University, Chicago, mbocea@luc.edu), Liviu Ignat (Institute of Mathematics of the Romanian Academy), Mihai Mihailescu (University of Craiova & IMAR), Daniel Onofrei (University of Houston), June 27 - 30, 2013, Alba Iulia, Romania
- (10) Workshop for Young Researchers in Mathematics, Constanța, May 09 - May 10, 2013,
- (11) Workshop for Young Researchers in Mathematics, Constanța, May 10 - May 11, 2012,
- (12) Workshop for Young Researchers in Mathematics, Constanța, May 12 - May 13, 2011,
- (13) WORKSHOP ON PARTIAL DIFFERENTIAL EQUATIONS Bucharest, November 25-26, 2010
- (14) WORKSHOP ON PARTIAL DIFFERENTIAL EQUATIONS Bucharest, October 29 - 30, 2008

10. Research Projects

Director of Research Projects

- (1) Analysis of Schrodinger equations, ANCS-UEFICDI, PN-II-RU-TE- 2014-4-0007, 01/10/2015-30/09/2017, 550000RON
- (2) Analysis, Control and Numerical Approximations of Partial Differential Equations, CNCS, PN II, PN-II-ID-PCE-2011-3-0075, 01/10/2011-30/09/2016, 1500000RON
- (3) Qualitative properties of partial differential equations and their numerical approximations, CNCSIS, PN II, TE-4/2010, 28/07/2010 - 27/07/2013, 750000RON
- (4) Qualitative properties of diffusion and dispersion in the study of the nonlinear problems and their numerical approximations, CNCSIS, PN II, RP-3,10/2007-09/2009, 500000 RON.

Member in Research Projects

- (1) Typical and Nontypical Eigenvalue Problems for Some Classes of Differential Operators, ANCS-UEFICDI, PN-III-P4-ID-PCE-2016-0035, I.P. Mihai Mihailescu
- (2) Dynamics, Control And Numerics For Fractional Partial Differential Equations, University of Puerto Rico, FA9550-15-1-0027, IP. Mahamawi Warma, AFOSR Grant FA9550-15-1-0027, December 2014–November 2017 (Total: \$450,438)
- (3) Methods and platforms for numerical simulation and control of environmental flows, MTM2014-52347-C2-01-R, financed by MICIN, SPAIN, 2015-2017, IP E. Zuazua

- (4) New analytical and numerical methods in wave propagation, NUMERIWAVES, FP7 - 246775, financed by European Research Council - ERC, IP E. Zuazua (Total: 58900 euros)
- (5) Partial Differential Equations: Analysis, Control, Numerics and Applications, MTM2011-29306, financed by the MICINN SPAIN, 2012-2014, IP E. Zuazua
- (6) Ecuaciones en Derivadas Parciales: Análisis, Control, Numérico y Aplicaciones, MTM2008-03541, MEC Spain, 2009-2011, 182300 euros, Grant Director Enrique Zuazua.
- (7) Dezvoltarea unui parteneriat european pentru studiul unor probleme actuale de analiza matematica, IMAR, CEx06-M3-102/01.08.2006, August 2006 - Iulie 2008, Grant Director: Prof. Dr. Florin Rădulescu.
- (8) Desarrollo de aplicacion informatica para el diseno optimo aeronautico mediante tecnicas novedosas, Universidad Autonoma de Madrid, PLAN NACIONAL DE INVESTIGACION CIENTIFICA, DESARROLLO E INNOVACION TECNOLOGICA (CIT-370200-2005-10) MEC- Spain, 1/11/2005 - 30/10/2008, Grant Directors: Francisco Palacios, Instituto Nacional de Tecnica Aeroespacial, Enrique Zuazua Iriondo UAM, 240000 euro.
- (9) Analisis, aproximacion numerica y diseno optimo de ecuaciones en derivadas parciales, MTM 2005-00714, Universidad Autonoma de Madrid, MEC, 01/11/2005 - 31/10/2008, Grant Director Enrique Zuazua Iriondo, 192 000 euro.
- (10) Analisis, Control y Simulacion Numerica en medios heterogeneos y en la interaccion fluido-estructura, BFM2002-03345, Universidad Autónoma de Madrid, MCYT, Grant Director Enrique Zuazua Iriondo, 171 000 euro.
- (11) Smart system, new materials, adaptive systems and their nonlinearities modelling, control and numerical simulation, HPRN-CT-2002-00284, Universidad Autónoma de Madrid, EU, Grant Director: Enrique Zuazua Iriondo, 130000 euro Spanish group.
- (12) Homogenization and Multiple Scales, HPRN-CT-2000-00109, Universidad Autónoma de Madrid, EU, Grant Director Enrique Zuazua Iriondo, 180 000 euros Spanish group.

11. Fellowships

- (1) Fellowship from Institute Henry Poincare Paris to participate to the program "Trimestre sur le Contrle des Equations aux Drives Partielles et Applications ", Paris, oct-dec 2010.
- (2) Fellowship from Cambridge Philosophical Society as young participant to the program Highly Oscillatory Problems: Computation, Theory and Application of Isaac Newton Institute for Mathematical Sciences, Cambridge, UK, 2007.
- (3) FPU fellowship for realizing the Ph.D. thesis, Spanish Ministry of Education, 01/01/2004-31/03/2006, Universidad Autónoma de Madrid, Madrid, Spain.
- (4) Pre-doctoral Fellowship, E.U Project Homogenization and Multiple Scales, 25/09/2002-31/12/2003, Universidad Autónoma de Madrid, Spain.
- (5) Scholarship from University Honours College of University of Pittsburgh, USA, 09/1998-05/1999, University of Pittsburg, USA.

12. Presentations

- (1) Asymptotic behaviour for fractional diffusion-convection equations, Workshop Analyse, analyse numerique et controle des milieux continus, Univ. of Bucharest, Romania, 21-23/05/2018
- (2) Asymptotic behaviour for fractional diffusion-convection equations, Ninth Itinerant Workshop in PDEs Institut de Mathematiques de Bordeaux, January 8-10, 2018
- (3) Asymptotic behaviour for fractional diffusionconvection equations, DeustoTech, 14/11/2017, Bilbao, Spain
- (4) Asymptotic behaviour for fractional diffusion-convection equations, Workshop on Pure and Applied Analysis, October 21, 2017, University of Craiova
- (5) Kuramoto-Sivashinsky equation on a star-shaped tree. A controllability result, Oberwolfach, June 2017, Germany
- (6) Asymptotic behaviour for fractional diffusion- convection equations, UBB, Cluj, May 24, 2017

- (7) Asymptotic behaviour for fractional diffusion- convection equations, International Conference on Elliptic and Parabolic Problems, Gaeta, May 2017, Italy
- (8) "Flash" Dispersion on Trees, CIRM, June 2017, Franta
- (9) Dispersion property for Schrödinger equations, International Center for Advanced Studies, Buenos Aires, 26/04/2016
- (10) Long-time behaviour for nonlocal convection-diffusion problems, 3rd Conference on Nonlocal Operators and Partial Differential Equations, 27.06.2016 - 01.07.2016, Bedlewo, Poland
- (11) Dispersion property for Schrödinger equations, Workshop on geometry and PDEs, 10-11 June 2016, West University of Timioara, Romania 2016
- (12) Dispersion property for Schrödinger equations, The Eighth Congress of Romanian Mathematicians, Iasi, Romania, 2015
- (13) Dispersion property for Schrödinger equations, Fri 24 April, 2015, San Juan, University of Puerto Rico, USA
- (14) Long-time behavior for nonlocal problems, Fri 17 April, 2015, San Juan, University of Puerto Rico, USA
- (15) Long-time behaviour for nonlocal problems, 12e Colloque Franco-Roumain de Mathmatiques Appliques, August 25-30, 2014, lUniversit de Lyon, Lyon, France.
- (16) Long-time behaviour for nonlocal problems, The 10th AIMS Conference on Dynamical Systems, Differential Equations and Applications, July 07 - July 11, 2014, Madrid, Spain
- (17) About nonlocal evolution equations, Meeting MTM, BCAM-Basque Center for Applied Mathematics, Bilbao, Spain, 13/06/2014.
- (18) Long-time behavior for nonlocal problems, Workshop for Young Researchers in Mathematics, University of Constanta, Romania, 22/05/2014
- (19) Long-time behaviour for a nonlocal convection-diffusion equation, Universite de Evry, 05/06/2014
- (20) "Nonlocal evolution equations", The second Kyushu-Euskadi Workshop on Applied Mathematics, Fukuoka, Japon, 12 nov 2013
- (21) "Nonlocal evolution equations", MTM Worshop, Basque Center for Applied Mathematics, 18th February, Bilbao, 2013
- (22) "Dispersion for Schrödinger equations", Pde's, Dispersion, Scattering theory and Control theory, Monastir, 10-14 June 2013
- (23) "Long-time behaviour for a nonlocal convection-diffusion equation", AMS Meeting, Alba Iulia, June 27 - 30, 2013
- (24) Dispersive properties for Schrödinger equations" la Universitatea din Craiova, 6/09/2012
- (25) Dispersion for Schrödinger equations, XIIme Colloque Franco-Roumain de Mathmatiques Appliques, 24-30/08/2012, Bucharest
- (26) Nonlocal evolution problems, XIIme Colloque Franco-Roumain de Mathmatiques Appliques, 24-30/08/2012, Bucharest
- (27) Dispersive properties for Schrödinger equations, Univ. Evry, France, 21 jun 2012.
- (28) Dispersive properties for Schrödinger equations, Partial differential equations, optimal design and numerics, Benasque, September 05, 2011
- (29) Open session on networks, Partial differential equations, optimal design and numerics, Benasque, Spain, September 06, 2011
- (30) Dispersive properties for Schrödinger equations, The Seventh Congress of Romanian Mathematicians, Brasov, June 29, 2011
- (31) Dispersive properties for Schrödinger equations, Workshop for Young Researchers in Mathematics, Constanta, May 12, 2011
- (32) Dispersive properties for Schrödinger equations, Seminário de Anlise/EDP, Instituto de Matematica, Universidade Federal do Rio de Janeiro, April 14, 2011
- (33) Dispersive properties for Schrödinger equations, Seminário de Equações Diferenciais Parciais, IMPA, Rio de Janeiro, April 7, 2011

- (34) Liviu Ignat, Uniform Boundary Observability of a Two-Grid Method for the 2d- Wave Equation, Workshop on Control of Dispersive Equations November 8-10, 2010, part of Control of Partial and Differential Equations and Applications Trimester, Institute Henri Poincare, Paris
- (35) Liviu Ignat, Null controllability of the heat equation on the Heisenberg group, Workshop Control of parabolic equations and systems, applications to fluids, November 15-19, 2010, part of Control of Partial and Differential Equations and Applications Trimester, Institute Henri Poincare, Paris
- (36) Liviu Ignat, Strichartz estimates for the Schroedinger equation on a tree and applications, Highly Oscillatory Problems: From Theory to Applications, 12-17 September 2010 , The Isaac Newton Institute, Cambridge, UK, Conferinta organizata de European Science Foundation
- (37) Convergence rates for dispersive approximation schemes to nonlinear Schrödinger equations, 10eme Colloque Franco-Roumain de Mathematiques Appliquees, Poitiers, august 2010, Franta, plenary talk
- (38) A splitting method for nonlinear Schrödinger equation, 10eme Colloque Franco-Roumain de Mathematiques Appliquees, Poitiers, august 2010, France
- (39) Asymptotics for nonlocal evolution equations, Workshop on Partial differential equations, optimal design and numerics, 28 august 2009, Benasque, Huesca, Spain
- (40) Schrodinger equations on trees, MTM Workshop, Basque Center for Applied Mathematics, 1 iulie 2009, Bilbao, Spania
- (41) Splitting methods for Schrodinger equations, MTM Workshop, Basque Center for Applied Mathematics, 1 iulie 2009, Bilbao, Spania
- (42) Asymptotics for nonlocal evolution equations, Workshop on non-local equations, Leganes, Madrid, 29-30 iunie 2009.
- (43) A nonlocal convection-diffusion equation, Romanian - German Symposium on Mathematics and its Applications May 14 - 17, 2009, Sibiu (Romania)
- (44) Asymptotics for nonlocal evolution equations, Basque Center for Applied Mathematics, Bilbao, Spania, dec. 2008.
- (45) Asymptotics for nonlocal evolution equations, Universit de Picardie-Jules Verne, Laboratoire Aminois de Mathématique Fondamentale et Appliquee, Amiens, Franța, sep. 2008.
- (46) A nonlocal convection diffusion equation, Exploratory Workshop on Asymptotic Analysis and Applications in Continuum Mechanics, Braşov, August 28 - 30, 2008.
- (47) A nonlocal convection-diffusion equation, Universidad Complutense de Madrid, 4/03/2008.
- (48) A nonlocal convection-diffusion equation, Dispersive CIM Workshop on PDE's, Numerical Simulation and Applications" organizat la Centro Internacional de Matematicas, Coimbra, 14/12/2007
- (49) A nonlocal convection-diffusion equation, IMAR, Bucuresti, 13/11/2007.
- (50) Uniform Boundary Observability of a Two-Grid Method for the 2d-Wave Equation, Workshop "Dispersive long waves models: control theory and boundary value problems", Wolfgang Pauli Institute, Viena, 17/10/ 2007
- (51) Dispersive schemes for linear and nonlinear Schrödinger equations, invited conference in the program Highly Oscillatory Problems: Computation, Theory and Application, Isaac Newton Institute for Mathematical Sciences, Cambridge, UK, 08/04/2007
- (52) Uniform Boundary Observability of a Two-Grid Method for the 2d-Wave Equation, Invited Conference, University Roma1 La Sapienza", Roma, 21/02/2007.
- (53) Uniform Boundary Observability of a Two-Grid Method for the 2d-Wave Equation, European Conference on Smart Systems, Roma, 26-28/10/2006.
- (54) Uniform Boundary Observability of a Two-Grid Method for the 2d-Wave Equation, International Congress of Mathematicians, Madrid, 22-30/08/2006.
- (55) Uniform Boundary Observability of a Two-Grid Method for the 2d-Wave Equation, Institute of Mathematics of Romanian Academy, Bucharest, 7-14/06/2006.
- (56) Numerical approximation scheme for dispersive equations, Workshop "Partial Differential Equations, Optimal Design and Numerics", Benasque, 28.08-09.09.2005.

- (57) Unique continuation property for the eigenvalues of the discrete Laplacian on the square, Workshop "Partial Differential Equations, Optimal Design and Numerics", Benasque, 28/08-09/09/2005.
- (58) Qualitative properties of Numerical Approximations of the Heat Equation, European Conference on Numerical Mathematics and Advanced Applications: Enumath 2005, Santiago de Compostela, 18-22/06/2005.
- (59) Schrödinger equations, numerical approximation schemes and dispersive properties, The seminar of Applied Mathematics of Department of Mathematics of Universidad Autónoma de Madrid, Madrid, Spain.
- (60) Dispersive properties for numerical approximation of Schrödinger Equation, Université de Tunis, Tunis, 30.04.2004.
- (61) Dispersive properties for numerical approximation of Schrödinger Equation, Midterm meeting of the TMR project Homogenization and multiple scales, Heidelberg, Germany, 6/12/2002 7/12/2002.
- (62) A Variational Approach to Discontinuous Problems with Critical Exponents, Inequalities, Timisoara, Rumania, 9/07/2001-14/07/2001.

13. Participant to programs, workshops, courses

- (1) Flow control in the presence of shocks: theory, numerics and applications Enrique Zuazua (BCAM) 23-27 November 2009, Basque Center for Applied Mathematics, Bilbao, Spain.
- (2) Control problems in quantum mechanics Jean-Pierre Puel (Université de Versailles St Quentin, France) 16-20 November 2009, Basque Center for Applied Mathematics, Bilbao, Spain.
- (3) Controle et problemes inverses pour les EDP : aspects theoriques et numeriques, CIRM, Marseille, France, 16-20/02/2009.
- (4) The program Highly Oscillatory Problems: Computation, Theory and Application organized by Isaac Newton Institute for Mathematical Sciences, Cambridge, Uk, 12/04/2007-09/05/2007.
- (5) The course "Computational Methods for Flow and Structural Control", Prof. Roland Glowinski, Univ. of Houston, 16-20/05/2005, Universidad Autónoma de Madrid, Madrid, Spain.
- (6) The course "A short course on Level Set Methods", Prof. Gregoire Allaire, Ecole Polytechnique Paris, 11-15/04/2005, Universidad Autónoma de Madrid, Madrid, Spain.
- (7) Primer Congreso Conjunto de Matemáticas RSME-SCM-SEIO-SEMA, Valencia, 31/01 04/02/2005, RSME-SCM-SEIO-SEMA, Valencia, Spain.
- (8) Fabes Lectures on Real Analysis & PDE's, Bilbao, 9/9/2004-11/09/2004, Universidad del País Vasco/Euskal Herriko Unibertsitatea, Spain.
- (9) 7th International Conference on Harmonic Analysis and Partial Differential Equations, El Escorial, Madrid, Spain, 21/06/2004-25/06/2004.
- (10) The course Domain Decomposition Solution of PDE's and Applications, Prof. Alfio Quarteroni, Ecole Polytechnique Fédérale de Lausanne, 23-27/02/2004, Universidad Autónoma de Madrid, Madrid, Spain
- (11) The course Nuevos Retos en Matemática Aplicada, Castro Urdiales, Spain, 1/09/2003-5/09/2003.
- (12) Workshop on Harmonic Analysis and Partial Differential Equations, Puerto Vallarta, Mexico, 23/06/2003-27/06/2003.
- (13) The course Numerical Analysis, Craiova, Romania, may 2002.
- (14) The course Nonlinear Analysis, Brasov, Romania, July 2000.

Curriculum vitae & List of publications

Alexandru Kristály

A) Birth date and place: 22 March 1975, Balan (Romania).

B) Bachelor degree: Babes-Bolyai University, Department of Mathematics and Informatics, Cluj-Napoca, Romania, 1993-1997.

C) Master degree: Babes-Bolyai University, Department of Mathematics and Informatics, Cluj-Napoca, Romania, 1997-1998.

D1) PhD degree (first): Babes-Bolyai University, Department of Mathematics and Informatics, Cluj-Napoca, Romania, 2003. Title of thesis: *Critical and equilibrium points for set-valued maps*. Scientific advisor: Prof. Wolfgang W. Breckner.

D2) PhD degree (second): University of Debrecen, Institute of Mathematics and Informatics, Debrecen, Hungary, 2005. Title of thesis: *Non-smooth critical point theories with applications in elliptic problems and the theory of geodesics*. Scientific advisor: Prof. Laszlo Kozma.

E) Current position: Full Professor, Babes-Bolyai University, Cluj-Napoca, Romania.

F) Invitations and fellowships (selected):

1. **Senior Research Fellow**, City University of Hong Kong, Hong Kong (21 September-21 October 2014, 1-31 March 2015).
2. **Visiting professor**, Universitat Bern (1-15 December 2010, 1-15 May 2011, 15 November-31 December 2011, 1-30 November 2012, 1-31 October 2013, 1-12 December 2014, 11-31 October 2015; 1-30 November 2016).
3. **Visiting professor**, University of Kyoto, Kyoto, Japan (1-10 October 2012).
4. **Professori Visitatori**, INDAM (Istituto Nazionale di Alta Matematica), University of Catania, Catania, Italy (1 June-30 July 2005, 8-22 January 2011 and 1-15 September 2009).
5. **Visiting professor**, IHES (Institute des Hautes Etudes Scientifiques), Bures-sur-Yvette (near Paris), France (15 March-15 April 2011 and 6 May-6 June 2013).
6. **J. Bolyai Research Fellowship**, Hungarian Academy of Sciences, Budapest, Hungary, 2009-2012 and 2013-2016.
7. **Junior Research Fellowship**, Central European University, Special and Extension Programs, Budapest, Hungary, (1 November 2005 - 31 January 2006).
8. **Domus Hungarica**, Hungarian Academy of Sciences, University of Debrecen, Debrecen, Hungary, 3 months in 2005 and 2006.
9. « **Two weeks on Global Analysis** », Centro di Ricerca Matematica Ennio De Giorgi, Scuola Normale Superiore, Pisa, 13 - 23 February 2005.

10. **Young Researcher**, Geometrical Analysis, EU Research Training Network PRN-CT-999-00118/2000-2004, Institute of Mathematics of the Polish Academy of Sciences, Stefan Banach Center, Warsaw, Poland, 4 months (1 June – 31 August 2003, and 20 January – 20 February 2004).

G) Editorial activity. Member in the Editorial Boards of *Journal of Optimization Theory and Applications*, *Studia Universitatis Babeş-Bolyai, Mathematica*. Referee for the journals: *Journal of Functional Analysis*, *Journal of Mathematical Analysis and Applications*; *Journal of Global Optimization*; *Journal of Optimization Theory and Applications*; *Nonlinear Analysis, Theory, Methods and Applications*; *Proceedings of the Edinburgh Mathematical Society*; *Glasgow Mathematical Journal*; *Acta Mathematica Hungarica*; *Applicable Analysis*; *Applied Mathematics Letters*; *Taiwanese Journal of Mathematics*, etc.

H) Conferences, congresses, talks:

1. Winter School on Abstract Analysis, Lhota nad Rohanovem, Czech Republic, 3-10 February, 2001. (Presented: Coerciveness property for a class of set-valued mappings).
2. Kossuth Lajos University, Department of Mathematics, Debrecen, Hungary, 12 May, 2002 (Presented: Set-valued versions of Ky Fan's minimax inequality with applications).
3. University of Szeged, Department of Mathematics, Szeged, Hungary, 21 September, 2002 (Presented: A metric property for Berwald spaces of non-positive flag curvature).
4. International Conference in Nonlinear Differential Equations and Applications (ICNODEA), Cluj-Napoca, 22-27 August, 2004 (Presented: Multiplicity results for an eigenvalue problem for hemivariational inequalities in strip-like domains).
5. University of Messina, Messina, Italy, 12 June, 2005 (Presented: Multiple solutions of certain elliptic problems on unbounded strips).
6. University of Reggio Calabria, Reggio Calabria, Italy, 13 June, 2005 (Presented: Infinitely many homoclinic solutions for an elliptic problem in \mathbb{R}^N).
7. 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).
8. *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).
9. Central European University, Budapest, Hungary, 7 December, 2005 (Presented: Multiple solutions of sublinear elliptic problems in \mathbb{R}^N).
10. 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).
11. Adam Mickiewicz University, Poznan, Poland, 20 June, 2006. (Presented: Infinitely many solutions for an one-dimensional scalar field equation).
12. University of Rouse, Rouse, Bulgaria, 1 August, 2006. (Presented: Nonradial sign changing solutions for quasilinear elliptic equations).
13. Central European University, Budapest, Hungary, Mini-workshop: Some Advances in Applied Mathematics, 25-29 September, 2006. (Presented: Quasilinear elliptic problems with oscillatory nonlinearities).
14. University of Perpignan, Perpignan, France, 27 March, 2007. (Presented: Sublinear eigenvalue problems on compact Riemannian manifolds).
15. Workshop "Topological and variational methods for differential equations", University of Rouse, Rouse, Bulgaria, 7-11 May, 2007. (Presented: Sublinear eigenvalue problems on compact Riemannian manifolds with applications in Emden-Fowler equations).

16. "International Workshop on Applied Evolution Equations", Central European University, Budapest, Hungary, 21-25 May, 2007. (Presented: Homoclinic solutions for an elliptic problem in \mathbb{R}^N with oscillatory terms).
17. Università di Messina, Italy, 26 June 2007. (Presented: Sublinear eigenvalue problems on compact Riemannian manifolds).
18. Università di Catania, Italy, 28 June 2007. (Presented: Asymptotically critical problems on spheres).
19. 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).
20. 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).
21. Central European University, Department of Mathematics and its Applications, Budapest, 2 October 2008. (Presented: Best approximation problems on Finsler-Riemann manifolds).
22. 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).
23. Università di Messina, Italy, 10 September 2009. (Presented: Arbitrary many solutions for a perturbed problem).
24. Università di Catania, Italy, 14 September 2009. (Presented: On a new class of elliptic systems with nonlinearities of arbitrary growth).
25. Eotvos Lorand University, Budapest, Hungary, 19 November 2009. (Presented : Metric projections and Nash equilibrium points on manifolds, in Hungarian).
26. The 7th Bolyai-Gauss-Lobachevsky Conference, International Conference on Non-Euclidean Geometry and its Applications, Cluj-Napoca, Romania, 5-9 July 2010. (Presentes : Nash-Stampacchia equilibrium points on Riemannian manifolds).
27. Institute of Mathematics "Simion Stoilow" of the Romanian Academy, Bucharest, Romania, Monthly Seminar Series. 17 November 2010 (Presented: Elliptic problems involving oscillatory nonlinearities).
28. University of Bern, Bern, Switzerland, 7 December 2010 (Presented : Nash-type equilibria on Riemannian manifolds).
29. Università di Messina, Messina, Italy, 13 January 2011. (Presented: Multiple solutions for an elliptic equation on the whole space).
30. Università di Catania, Catania, Italy, 20 January 2011. (Presented: A dimension-depending multiplicity result for the Schrödinger equation).
31. International Conference on Nonlinear Operators, Differential Equations and Applications, Cluj-Napoca, Romania, 5-8 July 2011. (Invited speaker). (Presented : Anisotropic elliptic problems involving asymmetric Minkowski norms).
32. Budapest University of Technology and Economics, Budapest, Hungary, 15 September 2011. (Presented: Symmetrization principles in elliptic variational problems isotropic and anisotropic phenomena).
33. Debrecen University, Debrecen, 9 March 2012. (Presented: Nash egyensúlypontok Riemann sokaságokon).
34. University of Rousse, Rousse, Bulgaria. 4 October 2012. (Presented: Anisotropic problems in the presence of asymmetric norms).
35. University of Kyoto, Kyoto, Japan. 9 October 2012. (Presented: Caffarelli-Kohn-Nirenberg inequalities on Finsler manifolds).
36. King Fahd University of Petroleum&Minerals, Dammam, Szaud-Arabia, 30 April 2013. (Presented: Nash-type equilibria on Riemannian manifolds).
37. Université Paris-Sud, Orsay, Paris, France, 30 May 2013. (Presented: Caffarelli-Kohn-Nirenberg inequalities on metric measure spaces: symmetrization and rigidity).

38. 14th IEEE International Symposium on Computational Intelligence and Informatics, Obudai Egyetem, Budapest. 19-21 November 2013. Workshop: Analytical and Geometrical Methods for Solving Engineering Problems. (Presented: Heisenberg uncertainty principles on Riemann-Finsler manifolds: the effect of curvature).
39. ICMC - Summer Meeting on Differential Equations (2014 Chapter), Sao Paulo, 3-7 February 2014. (Presented: Caffarelli-Kohn-Nirenberg inequalities on metric measure spaces: symmetrization and rigidity).
40. SACI 2014, Timisoara, Romania, 15-17 May. (Presented: Geometric aspects of non-positively curved spaces).
41. ALEL2014-International Conference on Optimization, Seville, Spain, 5-7 June 2014. Invited speaker. (Presented: Nash-type equilibria on Riemannian manifolds: the effect of curvature).
42. The 10th AIMS Conference on Dynamical Systems, Differential Equations and Applications, 7-11 July 2014, Madrid, Spain. Invited speaker. (Presented: A variational approach to Nash equilibria on Riemannian manifolds).
43. MAnET Workshop on Sub-Riemannian Analysis, PDE and Applications, Bern, Switzerland, 26-30 January 2015. Invited speaker. (Presented: Functional inequalities on metric measure spaces with applications). Link: <http://kingasipos.wix.com/manetbern#!speakers/c24dg>
44. Workshop "Advances in Game Theory", Reggio Calabria, Italy, 7 May 2015. Invited speaker. (Presented: Geometric aspects of Nash equilibria: the influence of the curvature). <http://www.cn24tv.it/news/111462/workshop-advances-in-game-theory-a-reggio-calabria.html>
45. The Eighth Congress of Romanian Mathematicians, Iasi, Romania, 26 June-1 July 2015. Invited speaker. (Presented: Gagliardo-Nirenberg inequalities on manifolds: the influence of the curvature). <http://www.math.uaic.ro/cmr2015/index.php?talks>
46. ICNODEA (International Conference on Nonlinear Operators, Differential Equations and Applications), Cluj-Napoca, 14-17 July 2015. Invited speaker. (Presented: Poisson equations on Finsler-Hadamard manifolds). <http://www.cs.ubbcluj.ro/~icnodeacj/>
47. University of Santiago de Compostela, Santiago de Compostela, Spain, 7 September 2016. (Presented: Gagliardo-Nirenberg inequalities on metric measure spaces: volume non-collapsing and rigidities).
48. The 2016 International Conference Applied Mathematics, Computational Science and Systems Engineering, Rome, Italy, 5-7 November 2016. Plenary Speaker. (Presented: Anisotropic Versus Isotropic Phenomena in Elliptic Problems: A Geometric Approach).
49. Workshop on Nonlinear Analysis on the Occasion of the 65th Birthday of Patrizia Pucci, Cluj-Napoca, Romania, 25-27 May 2017. Invited speaker. (Presented: Sharp uncertainty principles on Riemannian manifolds: the effect of curvature).
50. 23rd Rolf Nevanlinna Colloquium, Zurich, Switzerland, 12-16 June 2017. Session speaker. (Presented: Intrinsic Jacobian determinant inequalities on corank 1 Carnot groups).
51. XII International Symposium on Generalized Convexity and Monotonicity, Hajdúszoboszló (Hungary), 27 August – 2 September 2017. Plenary Speaker. (Presented: Convexity vs. Curvature).
52. 6th International Conference on Mathematics and Informatics, Târgu-Mureş/Marosvásárhely, Romania, 7-9 September 2017. Plenary Speaker. (Presented: Intrinsic geometric inequalities on sub-Riemannian structures).
53. XIV-ème colloque franco-roumain de mathématiques appliquées, Université de Bordeaux, Bordeaux, France, 27-31 August 2018. Plenary Speaker. (Presented: Geometric inequalities: Riemannian vs sub-Riemannian).
54. International Conference in Nonlinear Analysis and Boundary Value Problems 2018, University of Santiago de Compostela, Santiago de Compostela, Spain, 4-7 September 2018. Session Speaker. (Presented: Nodal solutions for the fractional Yamabe problem on Heisenberg groups).

I) National and International Research Projects (selected list):

1. Program coordinator (Senior category): *Symmetries in elliptic problems: Euclidean vs. non-euclidean techniques*. 2011-2016, PN-II-ID-PCE-2011-3-0241, CNCSIS(=National Research Center for Advanced Studies), Bucharest, Romania. Four members involved.
2. Program coordinator (Senior category): *Application of recent variational methods to the study of nonlinear elliptic PDEs and optimization problems*, 2007-2010, CNCSIS, Bucharest, Romania. Five members involved.
3. Program coordinator (Junior category): *Study of elliptic problems via critical point theory*, CNCSIS, Bucharest, Romania. Three members involved.
4. Member (Young researcher): *Geometrical Analysis*, EU Research Training Network PRN-CT-999-00118/2000-2004, Institute of Mathematics of the Polish Academy of Sciences, Stefan Banach Center, Warsaw, Poland, 4 months (1 June - 31 August 2003, and 20 January - 20 February 2004).

J) Publications :

J1. Monographs:

1. Kristály A, Radulescu V, Varga Cs, *Variational Principles in Mathematical Physics, Geometry, and Economics*, Encyclopedia of Mathematics and its Applications, No. 136, Cambridge University Press, Cambridge, UK. ISBN-10: 0521117828 | ISBN-13: 9780521117821
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2. Kristály A, *A Set-Valued Approach to Critical and Equilibrium Points*, Casa Cartii de Stiinta, Cluj-Napoca, Romania, 2004. ISBN: 978-973-133-616-9
3. Kristály A, Varga Cs, *An Introduction to Critical Point Theory for Non-smooth Functions*, Casa Cartii de Stiinta, Cluj-Napoca, Romania, 2004. ISBN: 973-686-604-1

J2. Papers:

1. Kristály A, *Sharp uncertainty principles on Riemannian manifolds: the influence of curvature*, J MATH PURES APPL (Liouville Journal), in press, 2017. DOI: 10.1016/j.matpur.2017.09.002
2. Balogh Z, Kristály A, Sipos K, *Geometric inequalities on Heisenberg groups*, CALCULUS OF VARIATIONS AND PDES, 57(2018), no. 2, 57:61, 1-41.
3. Faraci F, Farkas C, Kristály A, *Multipolar Hardy inequalities on Riemannian manifolds*, ESAIM: CONTROL OPTIM. AND CALC. OF VARIATIONS, 24(2018), no. 2, 551-567.
4. Barbosa E, Kristály A, *Second-order Sobolev inequalities on Riemannian manifolds with nonnegative Ricci curvature*, BULL LONDON MATH SOC, 50(2018), no. 1, 35-45.
5. Kristály A, *Poincaré's lemma on some non-Euclidean structures*, CHINESE ANNALS OF MATHEMATICS, SERIES B (Special issue in honor of P. G. Ciarlet), 39(2018), no. 2, 297-314.
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9. Farkas C, Kristály A, *Schrödinger-Maxwell systems on non-compact Riemannian manifolds*, NONLINEAR ANALYSIS-REAL WORLD APPLICATIONS, 31 (2016), 473-491.
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13. Kristály A, Rudas IJ, *Elliptic problems on the ball endowed with Funk-type metrics*, NONLINEAR ANAL. 119, 199-208 (2015).
14. Kristály A, *A sharp Sobolev interpolation inequality on Finsler manifolds*, J GEOM ANAL, 25:(4) 2226-2240 (2015).
15. Kristály A, *Sharp Morrey-Sobolev inequalities on complete Riemannian manifolds*, POTENTIAL ANAL., 42:(1) 141-154 (2015).
16. Kristály A, *Nash-type equilibria on Riemannian manifolds: a variational approach*, J MATH PURES APPL (Liouville Journal), 101, 660-688 (2014).
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