

# Curriculum vitae

## Identity

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Mathematics, University of Craiova,  
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## Education

- **2001-2005** - Faculty of Mathematics and Computer Science, University of Craiova, Romania.
- **2005-2007** - Master degree, Dynamical systems and evolution problems, Faculty of Mathematics and Computer Science, University of Craiova, Romania
- **2005-2008** - Ph.D. degree, Faculty of Mathematics and Computer Science, University of Craiova, Romania.  
Ph. D. Thesis: *Aspects of convexity in spaces with a curved geometry*.  
Advisor: Professor Constantin P. Niculescu.

## Publications

- **C. P. Niculescu, I. Roventă**, Relative Convexity and Its Applications, to appear in Aequationes Mathematicae, arXiv preprint arXiv:1409.2772.
- **F. Bugariu, I. Roventă**, Small time uniform controllability of the linear one dimensional Schrodinger equation with vanishing viscosity, Journal of Optimization Theory and Applications 160 (3) (2014), 949-964 DOI: 10.1007/s10957-013-0387-4.

- **N. Cindea, S. Micu, I. Roventa, M. Tucsnak** Numerical aspects and controllability of a one dimensional fluid-structure model, Ist IFAC Workshop on Control of Systems Governed by Partial Differential Equations, 2013, published by Elsevier and The International Federation of Automatic Control on IFAC-PapersOnLine, 19-24, ISSN 1474-6670, International Program Committee Chair: Meurer, Thomas, Zuazua, Enrique, Conference Editor: Le Gorrec, Yann (FEMTO-ST, ENSMM, France) ISBN: 978-3-902823-54-0. DOI: 10.3182/20130925-3-FR-4043.00035. (ISI Proceedings)
- **C. P. Niculescu, I. Roventa**, An approach of majorization in spaces with a curved geometry, *Journal of Mathematical Analysis and Applications* 411 (1) (2014) 119-129, DOI: 10.1016/j.jmaa.2013.09.038.
- **I. Roventa**, Generalized Equilibrium Problems Related to Ky Fan Inequalities, *Abstract and Applied Analysis Volume 2014* (2014), Article ID 301901, 6 pages, <http://dx.doi.org/10.1155/2014/301901>.
- **I. F. Bugariu, N. Cindea, S. Micu, I. Roventa**, Controllability of the space semi-discrete approximation for the beam equation, Preprints of the 19th World Congress The International Federation of Automatic Control Cape Town, South Africa. August 24-29, 2014, 11369-11374 published by Elsevier and The International Federation of Automatic Control on IFAC-PapersOnLine. (ISI Proceedings)
- **D. Danciu, A. C. Matei, S. Micu, I. Roventa**, Nonlinear Feedback Control and Artificial Intelligence Computational Methods applied to a Dissipative Dynamic Contact Problem, In ICINCO 2014 - 11th International Conference on Informatics in Control, Automation and Robotics, vol 1, (2014) ISBN: 978-989-758-039-0, pp. 528-539. (ISI Proceedings)
- **Constantin P. Niculescu and Ionel Roventă**, An extension of Chebyshev's algebraic inequality, *Math. Reports* 15 (65) (2013), No. 1, 91-95.
- **Sorin Micu, Ionel Roventă and Marius Tucsnak**, Time optimal boundary controls for the heat equation, *Journal of Functional Analysis*, 263 (2012), 25-49.
- **Ionel Roventă**, A note on Schur-concave functions, *Journal of Inequalities and Applications*, Volume 2012, No. 1, 2012:159, doi: 10.1186/1029-242X-2012-159.
- **Sorin Micu and Ionel Roventă**, Uniform controllability of the linear one dimensional Schrodinger equation with vanishing viscosity, *ESAIM: Control, Optimisation and Calculus of Variations*, 18 (2012), 277-293.
- **Constantin P. Niculescu and Ionel Roventă**, Generalized convexity and the existence of finite time blow-up solutions for an evolutionary problem, *Nonlinear Analysis: Theory, Methods & Applications* 75 (2012), 270-277, doi:10.1016/j.na.2011.08.031.
- **Nicolae Cindea, Sorin Micu, Ionel Roventă, Marius Tucsnak**, Controllability of a nonlinear hybrid system, *Annals of the University of Craiova - Mathematics and Computer Science Series*, Vol 38, No 1 (2011), 35-48.

- **Ionel Roventă**, Large solutions to a singular weighted quasi-linear equations involving the p-Laplacian operator, *Proceedings of ISCOPAM 2010*, Editors: /Ovidiu Carja and Ionel-Dumitrel Ghiba, Editura Universitatii "Alexandru Ioan Cuza" Iasi, 2011, pp. 209-220, ISBN 978-973-703-602-5.
- **Constantin P. Niculescu and Ionel Roventă**, Large Solutions for Semilinear Parabolic Equations Involving Some Special Classes of Nonlinearities, *Discrete Dynamics in Nature and Society*, Volume 2010 (2010), Article ID 491023, 11 pages, doi:10.1155/2010/491023.
- **Aurelia Florea and Ionel Roventă**, Some extensions of optimal Hardy's inequality using estimates of p-Laplacian, *Journal of Computational Analysis and Applications* **12** (2010), No. 3, 586-592, ISSN 1521-1398.
- **Ionel Roventă**, Schur-convexity of a class of symmetric functions, *Annals of the University of Craiova - Mathematics and Computer Science Series* **37** (2010), No. 1, 12-18, ISSN 1223-6934.
- **Constantin P. Niculescu and Ionel Roventă**, The Fan's inequality in metric spaces with non-positive curvature, *Applied Mathematics Letters* **22** (2009), 1529-1533, ISSN 0893-9659.
- **Constantin P. Niculescu and Ionel Roventă**, The existence of a global attractor for a class of rational maps, *Annals of the Academy of the Romanian Scientists, Series on Mathematics and its Applications* **1** (2009), No. 2, 215-227, ISSN 2066-5997.
- **Constantin P. Niculescu and Ionel Roventă**, Schauder fixed point theorem in metric spaces with non-positive curvature, *Fixed Point Theory and Applications*, volume 2009, article ID 906727, 8 pages, ISSN 1687-1820, doi:10.1155/2009/906727.
- **Ionel Roventă**, Boundary asymptotic and uniqueness of solution for a problem with p(x)-Laplacian, *Journal of Inequalities and Applications*, Volume 2008, 14 pp, doi: 10.1155/2008/609047.
- **Mihai Mihăilescu and Ionel Roventă**, Existence and multiplicity of radial solutions for an elliptic boundary value problem on an annulus, *Bull. Math. Soc. Sci. Math. Roumanie* **50** (2007), No. 4, 331-341.
- **Constantin P. Niculescu and Ionel Roventă**, Fan's inequality in the context of  $M_p$ -convexity, in vol. *Applied Analysis and Differential Equations, Proc. ICAADE 2006*, pp. 267-274, *World Scientific*, Singapore, 2007 (Editors, Ovidiu Carja and Ioan I. Vrabie) ISBN 978-981-270-594-5, ISSN 981-270-594-5.
- **Ionel Roventă**, A generalization of Ky Fan's theorem, *Proceedings of the International Conference of Young Scientists, affiliated to the International Conference Computer Algebra in Scientific Computing- 2006, CASC 2006*, Chisinau, Proc. CASC 2006, pp 181-186, ISBN 978- 9975-70-677-3.

## Research Grants

- director of the CNCS-UEFISCDI research project: Numerical Methods for Controls of Partial Differential Equations and Applications, PNII Grant, Capacități Brancuși, Modul III, bilateral project Romania-France, project number PN-II-CT-RO-FR 2012-1-0005, Nr. 700/19.04.2013, CF-128/19.04.2013.
- member of the CNCS-UEFISCDI research project: *Controllability, asymptotic behavior and numerical analysis for evolutionary processes*, project number: PN-II-ID-PCE-2011-3-0257. Director: Sorin Daniel Micu.
- member of the CNCS-UEFISCDI research project: *Strongly Nonlinear Problems in Contact Mechanics*, project number: PN-II-RU-TE-2011-3-0223. Director: Andaluzia-Cristina Matei.
- member of the research project : *Sisteme cu parametri distribuiti: analiză, sinteză via functionale Liapunov pentru comandă, aproximare numerică si implementare tip neurocomputing*, Nr/data inregistrarii: 10C/27.01.2014 Finantator: Universitatea din Craiova, (2014). Director: Daniela Danciu.
- member of the research project *Control of some fluid-structure interaction*, supported by Laboratoire Europeen Associe CNRS Franco-Roumain, LEA MATH-MODE Mathematiques and Modelisation, 2011.
- member of the CNCSIS Grant: *Controlability problems for partial differential equations*, Grant PNII, Capacitati Brancusi, Modul III, bilateral project Romania-France, Nr. 206/13-04-2009. Director: Sorin Daniel Micu
- member of the CNCSIS Grant: *Problems of convex analysis, numerique analysis and control in the study of phisical complex systems*, Grant PNII, IDEI, Nr. 420/2008. Director: Constantin P. Niculescu.
- member of the CNCSIS Grant: *Analysis and controls of the neliniar differential systems*, 589/2007. Director: Vicentiu Radulescu.
- member of the CNCSIS Grant: *Integration of master programs into the European higher educational framework by promoting interdisciplinary research via nonlinear analysis and evolution problems*, Contract 26761/2005 theme 14, Grant 80. Director: Constantin P. Niculescu.

## Research Stages

- Stage to Universite Blaise Pascal, Laboratoire de Mathematiques de Clermont-Ferrand, November 9-18, 2014, supported by CNCS-UEFISCDI bilateral research project, PNII Capacitati Brancusi, Romania-France, PN-II-CT-RO-FR 2012-1-1005
- Stage to Universite Blaise Pascal, Laboratoire de Mathematiques de Clermont-Ferrand, May 25-30, 2012, supported by CNCS-UEFISCDI research project PN-II-ID-PCE-2011-3-0257.
- Stage to Universite Blaise Pascal, Laboratoire de Mathematiques de Clermont-Ferrand, November 4-11, 2013, supported by CNCS-UEFISCDI bilateral research project, PNII Capacitati Brancusi, Romania-France, PN-II-CT-RO-FR 2012-1-1005
- Stage to Universite Henri Poincare Nancy 1, Institute Elie Cartan, Nancy, France, 8 - 19 november, 2011, supported by Laboratoire Europeen Associe CNRS Franco-Roumain, LEA MATH-MODE Mathematiques and Modelisation, 2011.
- Stage to Universite Henri Poincare Nancy 1, Institute Elie Cartan, Nancy, France, september 20 - october 2, 2011, supported by Laboratoire Europeen Associe CNRS Franco-Roumain, LEA MATH-MODE Mathematiques and Modelisation, 2011.
- Stage to Universite Henri Poincare Nancy 1, Institute Elie Cartan, Nancy, France, 6-15 June, 2010, supported by CNCSIS Grant, PNII, Capacitati Brancusi, Modul III, bilateral project Romania-France, Nr. 206/2009.
- Stage to Control of Partial and Differential Equations and Applications Trimester, Centre Emile Borel, Institute Henri Poincare, Paris, France, 2-26 November, 2010, supported by CNCSIS Grant, PNII, IDEI, Nr. 420/2008.
- Stage to Universite Henri Poincare Nancy 1, Institute Elie Cartan, Nancy, France, 1-8 September, 2009, supported by CNCSIS Grant, PNII, IDEI, Nr. 420/2008.
- Stage to Universite Henri Poincare Nancy 1, Institute Elie Cartan, Nancy, France, 8-20 June, 2009, supported by CNCSIS Grant, PNII, Capacitati Brancusi, Modul III, bilateral project Romania-France, Nr. 206/2009.

## Conferences, Workshops and Summer Schools

- 19th World Congress of the International Federation on Automatic Control, Cape Town, South Africa, August 24-29, 2014, communication with the title "Controllability of the semi discrete space approximation for the beam equation", contributed talk.
- Mathematical Inequalities and Applications, Trogir, Croatia, June 22-26, 2014, communication with the title "An Approach of Schur convex-concave functions", contributed talk.

- The Twelfth Conference on Nonlinear Analysis and Applied Mathematics, Targoviste, Romania, June 13-14, 2014, communication with the title "A new approach on weak majorization and applications", contributed talk. The Joint Meeting on Quantum Field Theory and Nonlinear Dynamics, communication with the title "The controllability of a system modeling the motion of a swimmer moving in a viscous fluid", Sinaia September, 24-27, 2014, contributed talk in Nonlinear Dynamics session.
- 1st IFAC Workshop on Control Systems Modeled by Partial Differential Equations, CPDE, September 25-27, Institute Henri Poincare, Paris, France, communication with the title „Numerical aspects and controllability of a one dimensional fluid-structure model”, regular talk in Controllability and observability session, supported by CNCS-UEFISCDI research project PN-II-ID-PCE-2011-3-0257.
- 21th Conference on Applied and Industrial Mathematics, September 19-22, 2013, Bucharest, Romania, communication with the title „Generalized equilibrium problems related to Ky Fan inequalities”, supported by CNCS-UEFISCDI research project PN-II-RU-TE-2011-3-0223.
- 5-th Workshop Partial differential equations, optimal design and numerics, Benasque, Spain, August 25-September 5, 2013, communication with the title „Controllability of a fluid-structure model” in the thematic session on "Fluid-Structure Interactions", supported by CNCS-UEFISCDI research project PN-II-ID-PCE-2011-3-0257.
- Thematic school of the GDRE ConEDP: Control of PDE's interactions and applications challenges, November 5th-9th, Centre International de Rencontres Mathematiques (CIRM), Luminy, France, supported by CNCS-UEFISCDI research project PN-II-ID-PCE-2011-3-0257.
- 33th International Summer School of Automatic Control, Modeling and Control of Distributed Parameter Systems, Gipsa-Lab Departament Automatique, Grenoble, France, September, 10-14, 2012, supported by CNCS-UEFISCDI research project PN-II-ID-PCE-2011-3-0257.
- Xieme Colloque Franco-Roumain de Mathématiques Appliquées, Faculté de Mathématiques et Informatique, Bucarest, 24-30 Août 2012, supported by CNCS-UEFISCDI research project PN-II-ID-PCE-2011-3-0257.
- Spring School in Nonlinear Partial Differential Equations, Université Libre de Bruxelles, May 30–June 6, 2012, supported by CNCS-UEFISCDI research project PN-II-ID-PCE-2011-3-0257.
- Congres d'Analyse Numerique CANUM 2012, Super-Besse, May 21-25, 2012, Laboratoire de Mathematiques de Clermont-Ferrand, communication with the title "On the solvability of an abstract variational system”, supported by CNCS-UEFISCDI research project PN-II-RU-TE-2011-3-0223.
- Workshop on "Partial differential equations, optimal design and numerics" 2011, August 28- September 09, 2011, Centro de Ciencias de Benasque Pedro Pasqual,

Organizers: G. Buttazzo (U. Pisa) and E. Zuazua (BCAM), supported by CNCSIS Grant, PNII, IDEI, Nr. 420/2008

- 10th International Symposium on Generalized Convexity/Monotonicity, Cluj, 22-27 August, 2011, communication with the title "An Applications of generalized convexity to the existence of finite time blow-up solutions for an evolutionary problem", supported by CNCSIS Grant PNII, IDEI, Nr. 420/2008.
- 7th Congress of Romanian Mathematicians, Brasov, June 29 - July 5, 2011, communication with the title "Generalized convexity and the existence of finite time blow-up solutions for semilinear parabolic equations", supported by CNCSIS Grant PNII, IDEI, Nr. 420/2008.
- International Student Conference on pure and Applied Mathematics, IS COPAM 2010, Iasi, 12-16 July, 2010, communication with the title "Uniform controllability of the linear one dimensional Schrodinger equation with viscosity", supported by CNCSIS Grant PNII, IDEI, Nr. 420/2008.
- National Conference of the Academy of Romanian Scientists, 22-24 September, 2010, communication with the title " Uniform controllability of the linear one dimensional Schrodinger equation with vanishing viscosity ", supported by CNCSIS Grant PNII, IDEI, Nr. 420/2008.
- National Mathematics Conference for University Students, Iasi, July-2009, communication with the title "Schauder fixed point theorem in global NPC spaces".
- 10th International Conference on Discrete Mathematics Convexity and Graph Theory, Universitat Dortmund, Germany, 14-18 July, 2007, communication with the title "Fan's inequality in metric spaces with nonpositive curvature".
- 6th Congress of Romanian Mathematicians, Bucharest, 28 June- 4 July, 2007, communication with the title "The existence of a global attractor for a class of rational maps".
- International Conference on Applied Analysis and Differential Equations, (ICAADE-2006), Iasi, 4-9 September, 2006, communication with the title " Fan's inequality in the context of  $M_p$ -convexity".
- International Conference on Applied Analysis and Differential Equations, (ICAADE-2006), Iasi, 4-9 September, 2006, communication with the title "Existence and multiplicity of radial solutions for an elliptic boundary value problem on an annulus".
- CERCMS International Conference of Young Scientist affiliated to the International Conference Computer Algebra in Scientific Computing-2006, Proc. CASC 2006, communication with the title "A Generalization of Ky Fan's Theorem".