

# MIHAI MIHĂILESCU'S LIST OF SCIENTIFIC PUBLICATIONS

## 1 Top 10 relevant publications published after obtaining the PhD degree

- 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, 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.
- 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, 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 V. Rădulescu, Concentration phenomena in nonlinear eigenvalue problems with variable exponents and sign-changing potential, *Journal d'Analyse Mathématique* **111** (2010), 267-287.
- 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 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. Bocea, M. Mihăilescu, M. Pérez-Llanos and J. D. Rossi, Models for growth of heterogeneous sandpiles via Mosco convergence, *Asymptotic Analysis*, in press. (DOI 10.3233/ASY-2011-1083)

## 2 PhD Thesis

• *Variational and Topological Methods in the Study of Semilinear and Quasilinear Problems*. Supervisor: Vicențiu Rădulescu. Examiners: Lucian Beznea (Institute of Mathematics *Simion Stoilow* of the Romanian Academy, Bucharest), Alberto Farina (Université de Picardie, France), Radu Precup (Babeș Bolyai University, Cluj-Napoca, Romania). This thesis was graded: *Magna Cum Laude*. (thesis defense: January 15, 2007, at the University of Craiova)

## 3 Papers published after January 2007

- 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 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, A continuous spectrum for nonhomogeneous differential operators in Orlicz-Sobolev spaces, *Mathematica Scandinavica* **104** (2009), 132-146.
- M. Mihăilescu, G. Moroșanu 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 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,  $\Gamma$ -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.
- 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 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, 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.
- 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 and M. Mihăilescu, A Caffarelli-Kohn-Nirenberg inequality in Orlicz-Sobolev spaces and applications, *Applicable Analysis*, in press. (DOI:10.1080/00036811.2011.571675)
- M. Mihăilescu and C. P. Niculescu, An extension of the Hermite-Hadamard inequality through subharmonic functions, *Glasgow Mathematical Journal* **49** (2007), 509-514.

## 4 Papers published before January 2007

- 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.

## 5 Conferences proceedings

- 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, 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.