

# Curriculum Vitae

Ovidiu Savin

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## ***Education.***

- Ph.D. Mathematics, University of Texas at Austin, 2003
- M.S. Mathematics, University of Pittsburgh, 1999

***Research interest:*** Partial Differential Equations.

## ***Positions Held.***

- Professor, Columbia University 2011–
- Associate Professor, Columbia University, 2006–2011
- Miller Postdoctoral Fellow, UC Berkeley, 2003–2006

## ***Awards and Honors.***

- ERC project “ $\varepsilon$ : Elliptic Pde’s and Symmetry of Interfaces and Layers for Odd Nonlinearities” , 2011–
- NSF grant, 2007–
- Sloan Fellowship, 2007–2009
- Invited speaker at the International Congress of Mathematics, Madrid, 2006
- Liftoff Fellow, Clay Mathematics Institute, 2003
- Putnam Fellow, 1997
- Gold Medal, International Mathematical Olympiad, Canada, 1995

## ***Member of Editorial Boards.***

- Editor for Communications in Analysis and Geometry
- Editor for Calculus of Variations and PDEs
- Editor for Advances in Mathematics

## ***Invited talks.***

- 5th Symposium on Analysis and PDEs, Purdue University, May 2012 (expected).
- Nonlocal PDEs, Variational Problems and their Applications, IPAM UCLA, February 2012 (expected.)
- Fronts and Nonlinear PDEs, A tribute to Henri Berestycki, Ecole Normale Supérieure, June 2011.

- International Conference on Geometric Analysis and nonlinear PDES, Zhejiang University, Hangzhou China, May 2011.
- Free Boundary Problems, Theory and Applications, MSRI March 2011.
- Current Developments in Mathematics, Harvard University, November 2009.
- Conference in honor of Antonio Cordoba on the occasion of his 60th birthday, Madrid Spain, June 2009.
- Workshops on Nonlinear PDEs, Warwick Mathematics Institute, Warwick, England, June 2009.
- Meeting on Symmetry for elliptic PDEs: 30 years after a conjecture of De Giorgi and related problems, Istituto Nazionale di Alta Matematica, Rome, Italy, May 2009.
- Conference on Geometric PDEs, Institute for Advanced Study , Princeton, February 2009.
- Meeting in honor of Luis Caffarelli on the occasion of his 60th birthday, Milan, Italy, February 2009.
- AMS 2008 Fall Eastern Section Meeting, Wesleyan University, Middletown, CT, October 2008.
- Workshop on “Aspects of Optimal Transport in Geometry and Calculus of Variations”, Institute for Pure and Applied Mathematics (IPAM) at UCLA, April 2008
- Invited Address at the AMS meeting, Courant Institute of New York University, March 2008
- Riviere-Fabes Symposium, University of Minnesota, April 2007
- Invited speaker at the International Congress of Mathematicians, Madrid, 2006
- Workshop on “Reaction-diffusion and Free Boundary Problems”, Banff International Research Station, March 2006
- Conference on “The p-Laplace equation, the infinity-Laplace equation and related topics”, Linkoping, Sweden, October 2004
- Workshop on “Optimal Transport Theory and Applications”, Pisa, Italy, October 2003
- Seminar and Colloquium talks: Pittsburgh University, Lehigh University, Princeton University, University of Rome, “Tor Vergata” , Brown University, Cornell University, Johns Hopkins University, Columbia University, UT Austin, University of Pennsylvania, Rutgers University, Princeton University, University of Minnesota, Mathematical Science Research Institute, Courant Institute, UC Berkeley, UC San Diego, UC Santa Cruz.

***List of Publications.***

- Savin O., Valdinoci E., Regularity of nonlocal minimal cones in dimension 2. Preprint 2012.
- De Silva D., Savin O.,  $C^{2,\alpha}$  regularity of flat free boundaries for the thin one-

phase problem. Preprint 2011, arXiv:1111.2513. Submitted.

- Le N.Q., Savin O., Boundary regularity for solutions to the linearized Monge-Ampere equations. Preprint 2011, arXiv:1109.5677. Submitted.
- Le N.Q., Savin O., Some minimization problems in the class of convex functions with prescribed determinant. Preprint 2011, arXiv:1109.5676. Submitted
- Savin O., Global  $W^{2,p}$  estimates for the Monge-Ampere equation, Preprint 2010, arXiv:1103.0456. Submitted
- Savin O., Pointwise  $C^{2,\alpha}$  estimates at the boundary for Monge-Ampere equations. Preprint 2010, arXiv:1101.5436. Submitted
- Savin O., A localization property at the boundary for the Monge-Ampere equation. Preprint 2010, arXiv:1010.1745. Submitted.
- Palatucci G., Savin O., Valdinoci E., Local and global minimizers for a variational energy involving a fractional norm, Preprint 2010. arXiv:1104.1725. To appear in Annali di Mat. Pura Appl.
- Savin O., Valdinoci E., Density estimates for a variational model driven by the Gagliardo norm. Preprint 2010, arXiv:1007.2114. To appear in SIAM Journal on Mathematical Analysis.
- Savin O., Valdinoci E.,  $\Gamma$ -convergence for nonlocal phase transitions. Preprint 2010, arXiv:1007.1725. To appear in Annales de l'Institut Henri Poincaré - Analyse non lineaire.
- Savin O., Varvaruca E., A priori estimates for waves with vorticity and the existence of extreme waves. Preprint 2010.
- Savin O., A Liouville theorem for solutions to the linearized Monge-Ampere equation, Discrete and Continuous Dynamical Systems, Volume: 28, Number: 3, November 2010, 865 – 873.
- Savin O., Phase transitions, minimal surfaces, and a conjecture of de Giorgi. Current Developments in Mathematics, 2009.
- Savin O., Minimal surfaces and minimizers of the Ginzburg-Landau energy. Contemporary mathematics (American Mathematical Society), v. 528, 2009.
- Daskalopoulos P., Savin O., Interior  $C^{1,\alpha}$  estimates for parabolic Monge-Ampère

equations. To appear in Amer. Journal of Math.

- Caffarelli L., Roquejoffre J-M., Savin O., Non-local minimal surfaces. *Comm. Pure Appl. Math.*, **63** (2010), 1111–1144.
- Savin O., Valdinoci E., Elliptic PDEs with fibered nonlinearities. *Journal of Geometric Analysis*, Volume 19, Number 2, 420-432.
- De Silva D., Savin O., Minimizers of convex functionals arising in random surfaces. *Duke Math. J.*, Volume 151, Number 3 (2010), 487-532.
- Savin O., Wang C., Yu Y., Asymptotic behavior of infinity harmonic functions near an isolated singularity, *Int Math Res Notices* (2008) Vol. 2008
- Savin O., Entire solutions to a class of fully nonlinear elliptic equations . *Ann. Scuola Norm. Sup. Pisa Cl. Sci. (5) Vol. VII* (2008), 369–405.
- Daskalopoulos P., Savin O., On Monge-Ampère equations with homogenous right hand side. *Comm. on Pure and Applied Math.* Volume 62, Issue 5, 639–676.
- De Silva D., Savin O., Symmetry of global solutions to a class of fully nonlinear elliptic equations in 2D. *Indiana Univ. Math. J.*, 2009; 58 (1), 301–315 .
- Evans L. C., Savin O.,  $C^{1,\alpha}$  regularity for infinity harmonic functions in two dimensions. *Calc. of Variations and PDEs*, 2008, Volume 32, Number 3, 325–347.
- Savin O., Symmetry of entire solutions for a class of semilinear elliptic equations, *Proceedings of the ICM, Madrid 2006*.
- Valdinoci E., Sciunzi B., Savin O., Flat level set regularity of p-Laplace phase transitions, *Mem. Amer. Math. Soc.* 182 (2006), no. 858.
- Savin O., Small perturbation solutions for elliptic equations, *Comm. Partial Differential Equations*, 32, 557–578, 2007.
- Evans L.C., Gangbo W., Savin O., Diffeomorphisms and nonlinear heat flows, *SIAM J. Math. Anal.* 37 (2005), no. 3, 737–751.
- Savin O.,  $C^1$  regularity for infinity harmonic functions in two dimensions, *Arch. Ration. Mech. Anal.* 176 (2005), no. 3, 351-361.
- Savin O., The obstacle problem for Monge Ampere equation, *Calc. Var. Partial*

Differential Equations 22 (2005), no. 3, 303-320.

- Savin O., Phase transitions: Regularity of flat level sets, Annals of Mathematics, Volume 169, Issue1 (2009) 41-78.
- Savin O., A free boundary problem with optimal transportation, Comm. Pure Appl. Math. 57 (2004) no. 1, 126-140.
- Rabier P., Savin O., Fixed points of multi-valued maps and static Coulomb friction problems, J. Elasticity 58 (2000), no. 2, 155-176.

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***Personal Information.***

Born: January 1st, 1977  
Citizenship: Romanian