

CURRICULUM VITAE OF SUNRA J. N. MOSCONI

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TEACHING ACTIVITY

- Math zero courses for freshmen.
- Calculus 1 for engineers.
- Analysis for computer scientists.
- Harmonic Analysis and Elliptic regularity for PhD students in Mathematics.

RESEARCH INTERESTS

- Calculus of Variations
- Geometric Measure Theory
- Regularity theory for Elliptic and Parabolic Problems
- Free Boundary Problems
- Non-Local Equations
- Navier-Stokes Equation and Fluid Dynamics
- Convex Analysis
- Critical Point Theory
- Non-Smooth Analysis
- Analysis in Metric Measure Spaces

PUBLICATIONS

1. S. M., P. Tilli, *Variational problems with several volume constraints on the level sets*, Calc. Var. Partial Differential Equations, **14** (2002), 233–247.
2. S. M., P. Tilli, *Γ -convergence for the irrigation problem*, J. Convex Anal., **12** (2005), 145–158.
3. N. Finizio, S. M., *Balanced whist tournaments*, JCMCC, **73** (2010), 142–158.
4. S. M., V. A. Solonnikov, *On a problem of magnetohydrodynamics in a multi-connected domain*, Nonlinear Anal., **74** (2011), 462–478.
5. S. M., *A differential characterization of the minimax inequality*, J. Convex Anal., **19:1** (2012), 185–199.
6. F. Faraci, S. M., *On the equivalence of two Three Critical Points theorems*, Nonlinear Anal., **75** (2012), 2000–2010.
7. N. Gigli, S. M., *A variational approach to the Navier–Stokes equations*, Bull. Sci. Math. **136** (2012), 256–276.
8. S. M., S. Santra, *On the existence and non-existence of bounded solutions for a fourth order ODE*, J. Differential Equations **255** (2013), 4149–4168.
9. S. M., V. A. Solonnikov, *The linearization principle for a free boundary problem for viscous, capillary incompressible fluids*, J. Math. Sci. **195** (2013), 20–60.
10. S. A. Marano, S. M., *Lower semi-continuous differential inclusions with p -laplacian* Libertas Math. (new series) **33** (2013), 109–123.
11. N. Gigli, S. M., *The Abresch–Gromoll inequality in a non-smooth setting*, Discrete Contin. Dyn. Syst., ser. A **34** (2014), 1481–1509.
12. S. A. Marano, S. M., *Non-Smooth critical point theory on closed convex sets*, Commun. Pure Appl. Anal. **13** (2014), 1187–1202.
13. S. M., *Heteroclinic connections for the Swift-Hohenberg equation*, Adv. Nonlinear Stud. **14** (2014), 873–894.
14. A. Iannizzotto, S. M., M. Squassina, *H^s versus C^0 -weighted minimizers*, NoDEA **22** (2015), 477–497.
15. S. A. Marano, S. M., *Multiple solutions to elliptic inclusions via critical point theory on closed convex sets*, Discrete Contin. Dyn. Syst., ser A **35** (2015), 3087–3102.
16. N. Gigli, S. M., *The abstract Lévy-Stampacchia inequality and applications*, J. Math. Pures Appl. **104** (2015) 258–275.

17. S. A. Marano, S. M., *Critical points on closed convex sets vs. critical points and applications*, J. Convex Anal. **22** (2015), 1107–1124.
18. S. M., M. Squassina, N. Shioji, *Nonlocal problems at critical growth in contractible domains*, Asymptot. Anal. **95** (2015) 79–100.
19. A. Iannizzotto, S. M., M. Squassina, *A note on global regularity for the weak solutions of fractional p -Laplacian equations*, Atti Accad. Naz. Lincei Rend. Lincei Mat. Appl. **27** (2015), 15–24.
20. S. A. Marano, S. M., N. S. Papageorgiou, *Multiple solutions to (p, q) -Laplacian problems with resonant concave nonlinearity*, Adv. Nonlinear Stud. **16** (2016), 51–65.
21. L. Brasco, S. M., M. Squassina, *Optimal decay of extremals for the fractional Sobolev inequality*, Calc. Var. Partial Differential Equations **55** (2016), 55:23.
22. S. M., M. Squassina, *Nonlocal problems at nearly critical growth*, Nonlinear Anal. **136** (2016), 84–101.
23. A. Iannizzotto, S. M., M. Squassina, *Global Hölder regularity for the fractional p -Laplacian*, Rev. Matemática Iberoam. **32** (2016), 1353–1392.
24. S. M., K. Perera, M. Squassina, Y. Yang, *The Brezis-Nirenberg problem for the fractional p -Laplacian*, Calc. Var. Partial Differential Equations **55** (2016), 55:105.
25. S. M., M. Squassina, *Recent progresses in the theory of nonlinear nonlocal problems*, Bruno Pini Mathematical Analysis Sem. **7** (2016), 147–164.
26. G. Marino, S. M., *Existence and asymptotic behavior of nontrivial solutions to the Swift-Hohenberg equation*, J. Differential Equations **263** (2017), 8581–8605.
27. S. M., *Optimal elliptic regularity: a comparison between local and nonlocal equations*, Discrete Contin. Dyn. Syst., ser S, **11** (2018), 547–559.
28. S. A. Marano, S. M., N. Papageorgiou, *On a (p, q) -Laplacian problem with parametric concave term and asymmetric perturbation*, Atti Accad. Naz. Lincei Rend. Lincei Mat. Appl. **29** (2018), 109–125.
29. W. Chen, S. M., M. Squassina, *Nonlocal problems with critical Hardy nonlinearity*, J. Funct. Anal. **275** (2018), 3065–3114.
30. S. A. Marano, S. M., *Some recent results on the Dirichlet problem for (p, q) -Laplace equations*, Discrete Contin. Dyn. Syst., ser S, **11** (2018), 279–291.
31. S. A. Marano, S. M., *Asymptotics for optimizers of the fractional Hardy-Sobolev inequality*, Commun. Contemp. Math. **21** (2019)18500281.

32. G. Düzgün, S. M., V. Vespri, *Anisotropic Sobolev embeddings and the speed of propagation for parabolic equations*, J. Evol. Equ. **19** (2019), 845–882.
33. G. Düzgün, S. M., V. Vespri, *Harnack and pointwise estimates for degenerate or singular parabolic equations*, capitolo nel volume “Contemporary Research in Elliptic PDEs and Related Topics”, Springer INdAM Series **33**, (2019).
34. A. Iannizzotto, S. M., M. Squassina, *Sobolev versus Hölder minimizers for the degenerate fractional p -Laplacian*, Nonlinear Anal. **191** (2020), 111635.
35. S. Liu, S. M., *On the Schrödinger-Poisson system with indefinite potential and 3-sublinear nonlinearity*, J. Differential Equations **269** (2020), 689–712.
36. S. A. Marano, S. M., *Quantitative truncation estimates for the fractional Hardy-Sobolev optimizers*, Le Matematiche **75** (2020), 105–115.
37. A. Iannizzotto, S. M., M. Squassina, *Fine boundary regularity for the degenerate fractional p -Laplacian*, J. Funct. Anal., **279** (2020), 108659.
38. S. M., *Liouville theorems for ancient caloric functions via optimal growth conditions*, Proc. A.M.S., **149** (2021), 897–906.
39. S. Ciani, S. M., V. Vespri, *Parabolic Harnack estimates for anisotropic slow diffusion*, to appear in J. Anal. Math..
40. A. Iannizzotto, S. M., N. Papageorgiou, *On the logistic equation for the fractional p -Laplacian*, to appear in Math. Nachr..
41. U. Guarnotta, S. M., *A general notion of uniform ellipticity and the regularity of the stress field for elliptic equations in divergence form*, to appear in Anal. PDE.
42. W. Borrelli, S. M., M. Squassina, *Concavity properties for solutions to p -Laplace equations with concave nonlinearities*, to appear in Adv. Calc. Var..
43. W. Borrelli, S. M., M. Squassina, *Uniqueness of the critical point for solutions to some p -Laplace equations in the plane*, preprint arxiv 2201.12788.
44. S. M., *A non-smooth Brezis-Oswald uniqueness result*, preprint arxiv 2212.07353 .

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