

CURRICULUM VITAE

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Education.

- Licenciado en Cs. Matemáticas (1995). Universidad de Buenos Aires.
- Doctor en Cs. Matemáticas (2002). Universidad de Buenos Aires. Advisor: Noemi Wolanski.

Present Positions.

- Associate Professor, Math Department, School of Exact Sciences, Universidad de Buenos Aires.
- Principal Researcher, CONICET.

Awards and fellowships.

- Prize “Misha Cotlar” in Mathematics from the National Academy of Sciences (Argentina) to young mathematicians (under 40). December 2009.
- Doctoral fellow, Universidad de Buenos Aires, 1997–2001.

Direction of Doctoral Thesis.

- Leandro M. Del Pezzo (UBA). *Some optimization problems for the p -Laplace operator*. December 2009
- Ariel M. Salort (UBA). *Eigenvalue homogenization for quasilinear elliptic operators*. August 2012.
- Analía Silva (UBA). *On the Sobolev embedding theorem for variable exponent spaces in the critical range and applications*. March 2013.
- Juan Spedaletti (UNSL). *Asymptotic behavior of optimal design problems in local and non local models*. September 2016.
- Antonella Ritorto (UBA). *Homogenization and optimal design in nonlocal diffusion*. November 2017.
- Carla Baroncini (UBA). *Nonlinear PDEs under domain perturbations*. April 2018 (expected).

Direction of Master Thesis.

- Juan Spedaletti (UNSL). *An optimal design problem related to the first Steklov eigenvalue*. March 2015

Editorial appointments

- Editorial board for *Abstract and Applied Analysis*. (2012–)
<http://www.hindawi.com/journals/aaa/>
- Editorial board for *Conference Papers in Mathematics*. (2012–2015)
<http://www.cpis.com/journals/mathematics/>
- Editorial board for *Cogent Mathematics*. (2016–)
<https://www.cogentoa.com/journal/mathematics>

Recent Publications in Scientific Journals.¹

1. (with J.D. Rossi and J.F. Spedaletti) *Optimal design problems for the first p -fractional eigenvalue with mixed boundary conditions*. To appear in Adv. Nonlinear Stud. Preprint available at [arXiv:1702.04315](https://arxiv.org/abs/1702.04315)
2. (with L. Del Pezzo and L. López Ríos) *An optimization problem for the first eigenvalue of the p -fractional laplacian*. To appear in Math. Nachr. Preprint available at [arXiv:1601.03019](https://arxiv.org/abs/1601.03019)
3. (with A. Ritorto and A.M. Salort) *Shape optimization problems for nonlocal operators*. To appear in Adv. Calc. Var. Preprint available at [arXiv:1612.08717](https://arxiv.org/abs/1612.08717)
4. (with J.F. Spedaletti) *Some nonlocal optimal design problems*. J. Math. Anal. Appl., **459** (2018), no. 2, 906–931.
5. (with C. Baroncini and J.F. Spedaletti) *Continuity results with respect to domain perturbation for the fractional p -laplacian*. Appl. Math. Lett., **75** (2018), 59–67.
6. (with A. Ritorto and A.M. Salort) *H -convergence result for nonlocal elliptic-type problems via Tartar's method*. SIAM J. Math. Anal., **49** (2017), no. 4, 2387–2408.
7. (with J.P. Pinasco and A.M. Salort) *Homogenization of Fučík eigencurves*. Mediterranean J. Math., **14** (2017), no. 2, 14–90.
8. (with J.F. Spedaletti) *A shape optimization problem for Steklov eigenvalues in oscillating domains*. ESAIM:COCV, **23** (2017), 373–390.
9. (with J.P. Borthagaray and A. Silva) *A mass transportation approach for Sobolev inequalities in variable exponent spaces*. Manuscripta Math., **151** (2016), no. 1, 133–146.
10. (with N. Saintier and A. Silva) *A Gamma convergence approach to the critical Sobolev embedding in variable exponent spaces*. J. Math. Anal. Appl., **442** (2016), no. 1, 189–205.
11. (with J.P. Pinasco and A.M. Salort) *A Lyapunov type inequality for indefinite weights and eigenvalue homogenization*. Proc. Amer. Math. Soc., **144** (2016), no. 4, 1669–1680.
12. (with J.P. Pinasco and A.M. Salort) *Eigenvalue homogenization for quasilinear elliptic equations with different boundary conditions*. Electron. J. Differential Equations. **2016** (2016), no. 30, 1–15.
13. (with J.P. Pinasco and A.M. Salort) *Eigenvalue homogenization problem with indefinite weights*. Bull. Aust. Math. Soc., **93** (2016), no. 1, 113–127.
14. (with C. Baroncini) *An extension of a Theorem of V. Šverák to variable exponent spaces*. Commun. Pure Appl. Anal., **14** (2015), no. 5, 1987–2007.
15. (with N. Saintier and A. Silva) *Existence of solution to a critical trace equation with variable exponent*. Asymp. Anal., **93** (2015), 161–185.
16. (with J.P. Pinasco and A.M. Salort) *Quasilinear eigenvalues*. Rev. UMA, **56** (2015), no. 1, 1–25.
17. (with J.P. Pinasco and A.M. Salort) *Convergence rate for some quasilinear eigenvalues homogenization problems*. J. Math. Anal. Appl., **423** (2015), 1427–1447.

Total number of publications in Scientific Journals: 72.

Total number of citations: (according to MathSciNet data base) 548.

h -index: (according to MathSciNet data base) 13.

¹Copies of the works can be found at <http://mate.dm.uba.ar/~jfbonder>

Selected recent talks

1. *On the Sobolev immersion theorem in variable exponent spaces*, X Americas Conference on Differential Equations, Buenos Aires, Argentina, February 2015.
2. *Some homogenization results for nonlinear eigenvalue problems with indefinite weights*, PDE Lectures in honor of Prof. Enrique Lami-Dozo, Buenos Aires, Argentina, September 2015.
3. *Tartar's method in nonlocal homogenization*, V Latin American Congress of Mathematics, Barranquilla, Colombia, July 2016.
4. *Uniqueness of minimal energy solutions for a semilinear problem involving the fractional laplacian*, XI Americas Conference on Differential Equations, Edmonton, Canada, August 2017.
5. *Fractional order Orlicz-Sobolev spaces*, X Workshop on Nonlinear Differential Equations, Brasilia, Brazil, September 2017.

Grants obtained in recent years.

- In charge of the Argentinian team in project PROSUL (CNPq-CONICET) nro: 490329/2008-0.
- In charge of the Argentinian team in MathAmSud 2009 Nonlinear Analysis and Partial Differential Equations.
- In charge of the Argentinian team in MathAmSud 2012 Quasilinear Equations and Singular Problems.
- Granted by ANPCyT, *Nonlinear Differential Equations and Free Boundary Problems*. 2014–2017.
- Granted by Universidad de Buenos Aires, *Nonlinear Elliptic Differential Equations*. 2014–2017.
- Granted by CONICET, *Partial Differential Equations and Free Boundary Problems*. 2015–2018.
- Granted by CONICET-FAPESP, *Analysis and Partial Differential Equations*. 2017–2019.

Organization of workshops and conferences in recent years (2009-present).

- Special session coordinator: LX Anual Meeting of the Unión Matemática Argentina, Tandil 2010. MACI 2011 (3er Congreso de Matemática Aplicada, Computacional e Industrial), Baha Blanca 2011. MCA 2013 (Mathematics Congress of the Americas) “Local and Nonlocal Evolution Problems”, Guanajuato, Mexico. LXIII Anual Meeting of the Unión Matemática Argentina, Santa Fe 2013. XI Americas Conference on Differential Equations, Edmonton, Canada (2017). RSME-UMA, Buenos Aires 2017.
- PDE 2017 (Fifth International Symposium on Nonlinear PDEs and Free Boundary Problems), on the occasion of Noemi Wolanski's 60th birthday, Buenos Aires, Argentina, 2017.
- X Americas Conference on Differential Equations and Nonlinear Analysis. Buenos Aires, 2015.
- PDE 2009 (Fourth International Symposium on Nonlinear PDEs and Free Boundary Problems), on the occasion of Luis Caffarelli's 60th birthday, Mar del Plata, Argentina, 2009.