

# Curriculum Vitae

Antônio Luiz Pereira

## Personal data

- Birth: 5 June 1953, São Paulo, Brazil.
- Address: Instituto de Matemática e Estatística, Universidade de São Paulo, Rua do Matão, 1010, São Paulo-SP, 05508-090, Brazil.
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## Research interests

- Asymptotic behavior of dissipative systems,
- Domain perturbation in boundary value problems.

## Education

- Mathematics B.Sc, University of São Paulo (São Paulo), 1977.
- Mathematics M. Sc, University of São Paulo (São Paulo), 1980.
- Mathematics Ph.D, University of São Paulo (São Paulo). Thesis: Eigenvalues of the Laplacian on symmetric regions, 1989. Advisor: Daniel B. Henry.

## Positions

- *August 1980 - September 2007*: Assistant professor, University of São Paulo.
- *September 2007 - Present*: Full professor, University of São Paulo.

## Long term stay at academic institutions

- Georgia Institute of Technology, Atlanta, GA - USA, 1990-1991 (18 months).
- Instituto Superior Técnico, Lisbon - Portugal, 2002-2003 (3 months)

- Universidad Complutense de Madrid, Madrid, Spain, November-December 2007 (2 months).

### Published research papers

- Existence, regularity and upper semicontinuity of pullback attractors for the evolution process associated to a neural field model (with Flank D. M. Bezerra and Severino H. da Silva), *Electronic Journal of Qualitative Theory of Differential Equations*, accepted for publication.
- Equivariant bifurcations in a non-local model of ferromagnetic materials (with Andréia S. Coutinho) *Nonlinear Analysis: Real World Applications*, accepted for publication.
- Continuity of attractors for a family of  $C^1$  perturbations of the square (with Marcone C. Pereira and Pricila S. Barbosa), *Annali di Matematica Pura ed Applicata*, v. 196, p. 1-34, 2016.
- Asymptotic behavior for a nonlocal model of neural fields (with Severino H. da Silva), *São Paulo Journal of Mathematical Sciences*, v. 9, p. 181-194, 2015.
- Eigenvalues of the Neumann Laplacian in symmetric regions (with Marcus A. M. Marrocos), *Journal of Mathematical Physics*, v. 56, p. 111502, 2015.
- Attractors for a Nonlinear Parabolic Problem with Terms Concentrating on the Boundary (with Gleiciane S. Aragão and Marcone C. Pereira), *Attractors for a Nonlinear Parabolic Problem with Terms Concentrating on the Boundary. Journal of Dynamics and Differential Equations*, v. 26, p. 871-888, 2014
- Existence and continuity of global attractors and nonhomogeneous equilibria for a class of evolution equation with non local terms (with Flank D. M. Bezerra and Severino H. da Silva), *Journal of Mathematical Analysis and Applications (Print)*, v. 396, p. 590-600, 2012.
- The tangential variation of a localized flux-type eigenvalue problem (with Rosa Pardo and José C. S. de Lis), *Journal of Differential Equations (Print)*, v. 252, p. 2104-2130, 2012.
- A nonlinear elliptic problem with terms concentrating in the boundary (with Gleiciane S. Aragão and Marcone C. Pereira), *Mathematical Methods in the Applied Sciences*, v. 35, p. 1110-1116, 2012.
- Stability analysis with applications of a two-dimensional dynamical system arising from a stochastic model for an asset market (with Fernando Pigead de A. Prado and Wladimir Belitsky), *Stochastics and Dynamics*, v. 11, p. 715-752, 2011. .

- Exponential trichotomies and continuity of invariant manifolds (with Severino H. Silva), *São Paulo Journal of Mathematical Sciences*, 2011.
- Continuity of global attractors for a class of non local evolution equations (with Severino H. Silva), *Discrete and Continuous Dynamical Systems*, v. 26, p. 1073-1100, 2010.
- Global Attractor for Neural Fields in a Weighted Space (with Severino H. da Silva), *Matemática Contemporânea*, v. 36, p. 132-139, 2009.
- An eigenvalue problem for the biharmonic operator on  $Z_2$ -symmetric regions (with Marcone C. Pereira), *Journal of the London Mathematical Society*, v. 122, 2008.
- Existence of global attractors and gradient property for a class of non local evolution equations (with Severino H. Silva), *São Paulo Journal of Mathematical Sciences*, v. 2, p. 1-20, 2008.
- Continuity of attractors for a reaction-diffusion problem with nonlinear boundary conditions with respect to variations of the domain (with Marcone C. Pereira), *Journal of Differential Equations*, v. 239, p. 343-370, 2007.
- Global attractor and nonhomogeneous equilibria for a nonlocal evolution equation in an unbounded domain. *Journal of Differential Equations* 226(2006), no. 1, 352-372.
- Generic simplicity for the solutions of a nonlinear plate equation (with Marcone C. Pereira). Contributions to nonlinear analysis, 443–463, *Progr. Nonlinear Differential Equations Appl.* 66, Birkhäuser, Basel, 2006.
- Continuity of attractors for a reaction-diffusion problem with respect to variations of the domain (with Luiz A. F. Oliveira and Marcone C. Pereira). *Electron. J. Differential Equations* (2005) no. 100, 18 pp (electronic)
- An extension of the method of rapidly oscillating solutions (with Marcone C. Pereira). *Mat. Contemp.* 27(2004), 225-241.
- Generic hyperbolicity for the equilibria of the one-dimensional parabolic equation  $u_t = (a(x)u_x)_x + f(u)$ . *Nonlinear Anal.* 20(2004), no. 4, 485-500.
- Global attractor for an equation modelling a thermostat (with Rita C.D.S. Broche and Luiz A. F. Oliveira). *Electron. J. Differential Equations* (2003) no. 100, 7 pp. (electronic).
- Spatially periodic equilibria for a non local evolution equation (with Saulo R. M. Barros, Cláudio Possani and Adilson Simonis). *Discrete Contin. Dyn. Syst.* 9(2003), no. 4, 937-948.

- A variant version of the Pólya-Eggenberger urn model (with Luis G. Esteves, Sérgio Wechsler and Pilar L. Iglesias) *Bayesian statistics 7* (Tenerife 2002), 511–518, Oxford Univ. Press, New York, 2003.
- A generic property for the eigenfunctions of the Laplacian (with Marcone C. Pereira). *Topol.Methods Nonlinear Anal.* 20(2002), no. 2,283-313.
- Attractors for parabolic problems with nonlinear boundary conditions in fractional power spaces (with Sérgio M. Oliva). *Dyn. Contin. Discrete Impuls. Syst. Ser. A Math. Anal.* 9(2002), no. 4, 551-562.
- On the equality between the Maslov index and the spectral index for the semi-Riemannian Jacobi operator ( with Daniel V. Tausk and Paulo Piccione). *J. Math. Anal. Appl.* 268(2002), no. 2,564-589.
- Invariant manifolds and limiting equations for a hyperbolic problem (with Luiz A.F. Oliveira) *Dynam. Contin. Discrete Impuls. Systems* 7(2000), no. 4, 503-524.
- Attractors for Parabolic Problems with Nonlinear Boundary Conditions (with Alexandre N.Carvalho, Sérgio M. Oliva Filho and Anibal Rodriguez-Bernal). *Journal of Mathematical Analysis and Applications* 207(1997), nº 2,409-461.
- Eigenvalues of the Laplacian on symmetric regions. *NODEA, Nonlinear Differential Equations and Applications* 2(1995), no. 1, 63-109.
- A scalar parabolic equation whose asymptotic behavior is dictated by a system of ordinary differential equations (with Alexandre N. Carvalho). *Journal of Differential Equations* 112(1994), no. 1, 81-130.
- Generic hyperbolicity for scalar parabolic equations. *Proceedings of the Royal Society of Edinburgh Sect. A* 123(1993), no. 6, 1031-1040.

#### Other published papers (on elementary mathematics)

- O problema dos bodes para  $n$  portas, *Revista do Professor de Matemática* 91, 2017.
- Juros simples são mesmo simples?, *Revista do Professor de Matemática* 91, 2016.
- *Contando áreas - o Teorema de Pick* (with Severino T. Melo), *Revista do Professor de Matemática* 78, 2012.
- *Chaves e portas*, *Revista do Professor de Matemática* 76, 2011.
- *ENEM 2009: vazamentos, erros e contextualizações* (with Severino T. Melo), *Revista do Professor de Matemática* 71, 2010.

- *A função  $1/x$  é descontínua no zero?* (with Ernesto R. Neto), Revista do Professor de Matemática 72, 2010.
- *A seção Leitor Pergunta virou artigo: questões de vestibulares e outros concursos* (with Renate Watanabe), Revista do Professor de Matemática 60, 2006.
- *Qual é o maior terreno que sua cerca pode delimitar?* (with Cláudio Possani), Revista do Professor de Matemática 54, 2005.
- *ENEM* (with Deborah M. Raphael). Revista do Professor de Matemática 50, 2002.
- *Transformações no plano e sistemas articulados* (with S. D. Assumpção, R. M. Ehlers, J. C. S. Sanches, Revista do Professor de Matemática 47, 2001.
- *Construções físicas e demonstrações*, Revista do Professor de Matemática 46, 2001.

#### Selected talks

- *Generic properties for the eigenvalues of the Neumann Laplacian in symmetric regions*, ICMSC-Summer Meeting in Differential Equations, ICMC-USP São Carlos - Brazil, March 2013.
- *Generic properties for the eigenvalues of the Neumann Laplacian in symmetric regions*, IV Escola Brasileira de Equações Diferenciais, 2011
- *Local and global bifurcations in a nonlocal evolution equation*, 2nd Meeting IST-IME, Lisbon - Portugal, 2009.
- *Global attractor and nonhomogeneous equilibria for a non local evolution equation*, ICMSC-Summer Meeting in Differential Equations, ICMC-USP São Carlos - Brazil, February 2006.
- *Some applications of the transversality theorem to perturbation of the boundary problem*, V Workshop on nonlinear differential equations, IMECC-UNICAMP, Campinas - Brazil, June 2004.
- *Nonlinear Flux Through the Boundary Versus Nonlinear Heating* no International Workshop on Differential Equations and Nonlinear Analysis, Taxco - Mexico, November 94.

#### Phd Students

- *Pricila da Silva Barbosa*, 2015. Thesis: “Continuidade de atratores para uma família de problemas parabólicos semilineares em domínios lipschitzianos”.

- *Marcus Antonio Mendonça Marrocos*, 2011, Thesis: “Autovalores de alguns problemas elípticos em regiões simétricas”.
- *Andréia da Silva Coutinho*, 2008, Thesis: “Bifurcações local e global de soluções de uma equação de evolução não local”.
- *Severino Horácio da Silva*, Thesis: “Existência e continuidade do atrator global para uma equação de evolução com convolução”.
- *Marcone Corrêa Pereira*, 2004, Thesis: “Perturbação de contorno do problema de Dirichlet para o Bilaplaciano”.
- *Antônio Sérgio Munhoz* (coorientação com Daniel Baumann Henry), 2003, Thesis: “Perturbação dos dados de equações do tipo parabólico em espaços de Banach”.

### Research grants

- Fundação de Amparo à Pesquisa do Estado de São Paulo (FAPESP), postdoctoral fellowship, Georgia Inst. Tech, Atlanta - GA, USA, 1990-1991.
- Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq), 300401/94-9.
- Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq), 308696/2006-9.
- Fundação de Amparo à Pesquisa do Estado de São Paulo (FAPESP), 03/11021-7.
- Fundação de Amparo à Pesquisa do Estado de São Paulo (FAPESP), 03/10042-0.
- Fundação de Amparo à Pesquisa do Estado de São Paulo (FAPESP), 2006/06278-7.
- Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES), DGU 127/07.
- Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq), 305210/2008-4.
- Fundação de Amparo à Pesquisa do Estado de São Paulo (FAPESP), 2010/18970-0.
- Fundação de Amparo à Pesquisa do Estado de São Paulo (FAPESP), 2011/08929-3, São Paulo, Brazil.
- Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq), 302847/2011-1.

- Fundação de Amparo à Pesquisa do Estado de São Paulo (FAPESP), 2016/02150-8.

São Paulo, June 2017.