

CURRICULUM VITAE

Antonio Galves

Born June 18, 1947 in São Paulo, Brasil

Married, 3 children

EDUCATION

1. *Bacharel* in Mathematics
Universidade de São Paulo, December, 1968.
2. *Mestre* in Statistics
Universidade de São Paulo, June, 1972.
3. *Diplome d'Etudes Approfondies* in Statistics
(option: Théorie des Probabilités)
Université de Paris VI, September, 1974.
4. *Doutor* in Statistics
Universidade de São Paulo, May, 1978.

RESEARCH AREAS

Probability theory, statistical physics, statistical model selection and neuromathematics

POSITIONS

1. Professor Assistente
Faculdade de Filosofia, Ciências e Letras da Universidade de São Paulo, from 1969 to 1970.
Professor Assistente
Instituto de Matemática e Estatística da Universidade de São Paulo, December, from 1970 to 1978.
2. Professor Assistente Doutor
Instituto de Matemática e Estatística da Universidade de São Paulo, from 1978 to 1984.
3. Professor Livre-Docente
Instituto de Matemática e Estatística da Universidade de São Paulo, from 1984 to 1988.

4. Professor Adjunto

Instituto de Matemática e Estatística da Universidade de São Paulo, from 1987 to 1990.

5. Professor Titular

Instituto de Matemática e Estatística da Universidade de São Paulo, since September, 1990.

SABBATICAL AND SHORT VISITS

1. Researcher, Centre de Mathématiques, Ecole Polytechnique de Paris, August, 1972 to July, 1977.

2. Visiting Researcher, Laboratoire de Probabilités, Université de Paris VI, December, 1983 to February, 1984; January and February, 1986; and September, 1988 (Cooperation Program CNPq-CNRS).

3. Visiting Researcher, IHES, Bures-sur-Yvette, September, 1984 to April, 1985 and November, 1988 to January, 1989.

4. Visiting Professor, Università di Roma "La Sapienza" and Università di Roma "Tor Vergata", several times since 1985.

5. Visiting Professor, Université da Bourgogne (Dijon), several times since January, 1987.

6. Visiting Professor, Tel-Aviv University, March, 1989.

7. Visiting Professor, Université da Provence (Marseille) and CPT-CNRS de Luminy, February, July, 1989 and March 1995.

8. Visiting Professor, Centre de Physique Théorique, Ecole Polytechnique, Paris-Palaiseau, several times since January, 1992.

9. Visiting Professor, Department of Mathematics, UCLA, January, 1993.

10. Visiting Professor, Department of Mathematics, USC, March, 1994.

11. Visiting Professor, Instituto Superior Técnico, Lisboa, March, several times since 1995.

12. Visiting Professor, Laboratoire de Recherches Informatiques, Université de Paris-Sud, two visits, the last one in May 2003.

13. Visiting Professor, Laboratoire de Mathématiques Raphael Salem, Université de Rouen, several times since December 2003.

14. Visiting Professor, Centre de Mathématiques Appliquées, Ecole Polytechnique, Paris-Palaiseau, July 2008.

PUBLICATIONS

1. *Une classe de systèmes de particules stable par association*, with F. Bertein. *Z. Wahrscheinlichkeitstheorie verw. Gebiete*, **41**, 73-85, 1977.
2. *Comportement asymptotique de deux marches aléatoires sur \mathbb{Z} qui interagissent par exclusion*, with F. Bertein. *C.R. Acad. Sci, Paris A*, **285**, 681-683, 1977.
3. *Méthodes d'association pour des systèmes infinis de particules sur \mathbf{R} .*, with C. Cocozza and M. Roussignol. *C.R. Acad. Sci, Paris A*, **286**, 1011-1014, 1978.
4. *Etude de deux évolutions markoviennes de processus ponctuels sur \mathbf{R} par des méthodes d'association*, with C. Cocozza and M. Roussignol. *Ann. Inst. H. Poincaré, Sect. B*, **15**, 235-259, 1979
5. *Non equilibrium measures which exhibit a temperature gradient: study of a model*, with C. Kipnis, C. Marchioro and E. Presutti. *Comm. Math. Phys.* **81**, 127-147, 1981.
6. *Metastable behavior of stochastic dynamics: a pathwise approach*, with M. Casandro, E. Olivieri and M.E. Vares. *J. Stat. Phys.* **35**, 603-634, 1984.
7. *Chthamalus bisinuatus (Cirripedia) and Brachidontes solisianus (Bivalvia) spatial interactions: a stochastic model*, with V. Eston, C. Jacobi, R. Langevin and N. Tanaka. *Ecological Modelling* **34**, 99-113, 1986.
8. *Metastability for a class of dynamical systems subject to small random perturbations*, with E. Olivieri and M. E. Vares. *Ann. Probab.* **15**, 1288-1305, 1987.
9. *Edge fluctuations for the one dimensional supercritical contact process*, with E. Presutti. *Ann. Probab.* **15**, 1131-1145, 1987.
10. *Travelling wave structure of the one dimensional contact process*, with E. Presutti, *Stoch. Process Appl.* **25**, 153-163, 1987.
11. *Fluctuations in Derrida's Random Energy and Generalized Random Energy Models*, with S. Martinez and P. Picco. *J. Stat. Physics*, **54**, 515-529, 1989.
12. *Large density fluctuations for the one dimensional supercritical contact process*, with F. Martinelli and E. Olivieri. *J. Stat. Phys.* **54**, 639-648, 1989.
13. *Approximations finies de la mesure invariante du processus de contact surcritique vu par la première particule*, with R. Schinazi. *Probab. Th. Rel. Fields*, **83**, 435-445,

1989.

14. *Occurrence times of rare events for mixing dynamical systems*, with B. Schmitt. Ann. Inst. H. Poincaré (Physique Théorique), **52**, 267-281, 1990.

15. *Dominance switch between two interacting species and large deviations*, with V. Eston, C. M. Jacobi and R. Langevin. Atas do II Simpósio de Ecossistemas da Costa Sul e Sudeste Brasileira, vol.4, 1992, ACIESP, São Paulo.

16. *Dynamical phase transition in disordered systems: the study of a random walk model*, with M. Cassandro and P. Picco. Ann. Inst. H. Poincaré (Physique Théorique), **55**, 689-706, 1991.

17. *Self-diffusion in a two-dimensional system of colliding sticks*, with N. Ianiro e L. Triolo. J. Stat. Phys., **65**, 205-216, 1991.

18. *Unpredictability of the occurrence time of a long laminar period in a model of temporal intermittency*, with P. Collet and B. Schmitt. Ann. Inst. H. Poincaré (Physique Théorique), 1992 **57**, 319-331, 1992.

19. *Statistics of close visits to the indifferent fixed point of an interval map*, with P. Collet. J. Stat. Phys. **72**, 459-478, 1993.

20. *Exponential waiting time for a big gap in a one dimensional zero range process*, with P. Ferrari and C. Landim. Ann. Probab. **22**, 284-288, 1994.

21. *Exponential waiting time for filling a large interval in the symmetric simple exclusion process*, with P. Ferrari and T. M. Liggett. Ann. Inst. H. Poincaré Sect. B **31**, 155-176, 1995.

22. *Asymptotic distribution of entrance times for expanding maps of the interval*, with P. Collet. In Dynamical Systems and Applications, World Sci. Ser. Appl. Anal. **4**, 139-152, 1995.

23. *Approach to equilibrium in the symmetric simple exclusion process*, with N. Cancrini. Markov Proc. Rel. Fields **1**, 175-184, 1995.

24. *Maximum likelihood and minimum entropy identification of grammars*, with P. Collet and A. Lopes. Random and Computational Dynamics **3**, 241-256, 1995.

25. *Relaxation time of the one-dimensional symmetric zero range process with constant rate*, with H. Guiol. Markov Proc. Rel. Fields **3**, 323-332, 1997.

26. *Inequalities for hitting times in mixing dynamical systems*, with B. Schmitt.

Random and Computational Dynamics **5**, 337-348, 1997.

27. *Markovian modeling of the stress contours of Brazilian and European Portuguese*, with C. Dorea, E. Kira and A. Pereira Alencar. REBRAPE **11**, 161-173, 1997.

28. *Rare events in stochastic dynamical systems and failures in ultra-reliable reactive programs*, with M. C. Gaudel. Digest of papers FTCS **28**, 324-333, IEEE, 1998.

29. *Speed of \bar{d} -convergence for Markov approximations of chains with complete connections. A coupling approach*, with X. Bressaud and R. Fernández. Stochastic Process. Appl. **83**, no.1, 127-138, 1999.

30. *Decay of correlations for non Holderian dynamics. A coupling approach*, with X. Bressaud and R. Fernández. Electron. J. Probab. **4**, Paper no.3, 1-19, 1999.

31. *A statistical-physics approach to language acquisition and language change*, with M. Cassandro, P. Collet and Ch. Galves. Physica A **263**, 427-437, 1999.

32. *Repetition times for Gibbsian sources*, with P. Collet and B. Schmitt. Nonlinearity **12**, 1225-1237, 1999.

33. *Rate of convergence to equilibrium of symmetric simple exclusion processes*, with P. Ferrari and C. Landim. Markov Proc. Rel. Fields **6**, 73-88, 2000.

34. *Identifying features in the presence of competing evidence. The case of first-language acquisition*, with R. Fernández, in Dynamical Systems: from Crystal to Chaos. World Sci. Ser. Appl. Anal., 52-62, 2000.

35. *Inequalities for the occurrence times of rare events in mixing processes. The state of the art*, with M. Abadi. Markov Proc. Rel. Fields **7**, 97-112, 2001.

36. *Markov approximations of chains of infinite order*, with R. Fernández. Bull. Braz. Math. Soc. **33**, 295-306, 2002.

37. *Sonority as a basis for rhythmic class discrimination*, with J. Garcia, D. Duarte and Ch. Galves. In: Proceedings of the Speech Prosody 2002 conference (ISBN 2-9518233-0-4), 323-326, 2002. Can be retrieved from www.lpl.univ-aix.fr/sp2002/papers.htm.

38. *Fluctuations of the empirical entropies of a chain of infinite order*, with D. Gabrielli and D. Guiol. Math. Phys. Electron. J. **9**, No.5, 2003. Can be retrieved from www.ma.utexas.edu/mpej/Vol1/9/5.ps.

39. *A version of Maurer's conjecture for ψ -mixing processes*, with M. Abadi. Nonlinearity **17**, No. 4, 1357-1366, 2004. Can be retrieved from <http://stacks.iop.org/0951->

7715/17/1357.

40. *Sequence motif identification and protein family classification using probabilistic trees*, with F. Leonardi. In: *Advances in Bioinformatics and Computational Biology: BSB 2005, Proceedings*. Editors: J.C. Setubal, S. Verjovski-Almeida. *Lecture Notes in Computer Science* **3594**, 190-193, Springer-Verlag, 2005.
41. *Bootstrap central limit theorem for chains of infinite order via Markov approximations*, with P. Collet and D. Duarte. *Markov Proc. Rel. Fields* **11**, 443-464, 2005.
42. *Markov approximation and consistent estimation of unbounded probabilistic suffix trees*, with D. Duarte and N. Garcia. *Bull. Braz. Math. Soc. (N. S.)* **37 (4)**, 581-592, 2006.
43. *Identifying rhythmic classes of languages using their sonority: a Kolmogorov-Smirnov approach*, with J. A. Cuesta-Albertos, R. Fraiman, J. Garcia and M. Svarc. *Journal of Applied Statistics* **34 (6)**, 749-761, 2007.
44. *A stochastic model for the speech sonority*, with M. Cassandro, P. Collet, D. Duarte and J. Garcia. *Math. Sci. Hum., Math. Soc. Sci.* **180 Special issue: Mathematics and phonology**, 43-55, 2007.
45. *Exponential inequalities for VMLC empirical trees*, with V. Maume-Deschamps and B. Schmitt. *ESAIM Probab. Stat.* **12**, 219-229, 2008.
46. *Exponential inequalities for empirical unbounded context trees*, with F. Leonardi. *Progress in Probability* **60 In and Out of Equilibrium 2**, Editors: V. Sidoravicius and M. E. Vares, 257-270, 2008. Can be retrieved from [ArXiv:math/0710.5900v1](https://arxiv.org/abs/math/0710.5900v1).
47. *Stochastic chains with memory of variable length*, with E. Löcherbach. *TICSP Series* **38 Festschrift for Jorma Rissanen**. Editors: P. Grünwald, P. Myllymäki, I. Tabus, M. Weinberger and B. Yu), 117-133, 2008. Can be retrieved from [ArXiv: math/0710.5900v1](https://arxiv.org/abs/math/0710.5900v1).
48. *Random perturbations of stochastic chains with unbounded variable length memory*, with P. Collet and F. Leonardi. *Electron. J. Probab.* **13**, no. 48, 1345–1361, 2008.
49. *Perfect simulation of infinite range Gibbs measures and coupling with their finite range approximations*, with E. Loecherbach and E. Orlandi. *J. Stat. Phys.* **138**, no. 1-3, 476-495, 2010.
50. *Perfect simulation of a coupling achieving the \bar{d} -distance between ordered pairs of binary chains of infinite order*, with N. Garcia and C. Prieur. *J. Stat. Phys.* **141**, 669-682, 2010.

51. *Context tree selection and linguistic rhythm retrieval from written texts*, with C. Galves, J. Garcia, N. L. Garcia and F. Leonardi. *Annals Appl. Stat.* **6**, no. 1, 186-209, 2012.
52. *Partially observed Markov random fields are variable neighborhood random fields* with M. Cassandro and E. Löcherbach, *J. Stat. Phys.* **147**, no. 4, 795-807, 2012. DOI:10.1007/s10955-012-0488-8.
53. *Chains of infinite order, chains with memory of variable length, and maps of the interval*, with P. Collet. *J. Stat. Phys.* **149**, 73-85, 2012. DOI: 10.1007/s10955-012-0579-6
54. *Joint estimation of intersecting context tree models*, with A. Garivier and E. Gasiat. *Scandinavian Journal of Statistics* **40**, 344-362, 2013. DOI: 10.1111/j.1467-9469.2012.00814.x
55. *Infinite systems of interacting chains with memory of variable length - a stochastic model for biological neural nets*, with E. Loecherbach. *J. Stat. Phys.* **151**, 869-921, 2013.
56. *Kalikow-type decomposition for multicolor infinite range particle systems*, with N. L. Garcia, E. Loecherbach and E. Orlandi. *Annals Appl. Prob.* **23**, 1629-1659, 2013.
57. *Hydrodynamic limit for interacting neurons*, with A. De Masi, E. Loecherbach and E. Presutti. *J. Stat. Phys.* **158**, 866-902, 2015. DOI: 10.1007/s10955-014-1145-1
58. *Identifying interacting pairs of sites in Ising models on a countable set*, with E. Orlandi and D.Y. Takahashi. *Brazilian Journal of Probability and Statistics* **29**, 443-459, 2015. Can be retrieved from <http://arxiv.org/abs/1006.0272v3>.
59. *Reduced functional connectivity within the primary motor cortex of patients with brachial plexus injury*, with D. Fraiman, M.F. Miranda, F. Erthal, P.F. Buur, M. Elschot, L. Souza, S.A.R.B. Rombouts, M.J.P. van Osch, C.A. Schimmelpenninck, D.G. Norris, M.J.A. Malessy, and C. D. Vargas. *NeuroImage: Clinical* **12**, 277-284, 2016. <http://dx.doi.org/10.1016/j.nicl.2016.07.008>
60. *Modeling networks of spiking neurons as interacting processes with memory of variable length*, with E. Loecherbach. *Journal de la Societé Française de Statistique* **157**, 17-32, 2016. Can be retrieved from <https://arxiv.org/abs/1502.06446>
61. *Information transmission and criticality in the contact process*, with M. Cassandro and E. Loecherbach. *J. Stat. Phys.* **168 (6)**, 1180-1190, 2017 <https://doi.org/10.1007/s10955->

017-1854-3.

62. *Phase Transition for Infinite Systems of Spiking Neurons*, with P. Ferrari, I. Grigorescu and E.J Loecherbach. *J. Stat. Phys.* **172**, 1564-1575, 2018.

63. *Estimating the interaction graph of stochastic neural dynamics*, with A. Duarte, G. Ost and E. Loecherbach. *Bernoulli* **25**, 771-792, 2019.

COMMUNICATIONS IN LINGUISTIC MEETINGS WITH REFEREE

1. *Acquisition et changement linguistique dans le modèle de Gibson et Wexler*, with M. Cassandro, Colloque Langues et Grammaire 2, Université de Paris VII, June 8-10, 1995.

2. *Language acquisition and change in a generalized Gibson-Wexler model*, with M. Cassandro, Fourth Meeting on Mathematics of the Language (MOL4), University of Pennsylvania, Philadelphia, October 27-28, 1995.

3. *Structure recognition and language change in a generalized GW model*, with M. Cassandro and C. Galves, II International Conference on Mathematical Linguistics (ICML'96), Tarragona, Spain, May 2-4, 1996.

4. *A stochastic modeling of the prosodic patterns of Brazilian and Modern European Portuguese*, with C. Dorea, E. Kira, and A. P. Alencar, SBIA'96 Second Workshop on Computational Processing of Written and Spoken Portuguese, Curitiba, October 21-22, 1996.

5. *On the relationship between intra-oral pressure and speech sonority*, with A. Cros, D. Demolin and G. Flesia, Interspeech'2005-Eurospeech, Lisbon, September 4-8, 2005. Can be retrieved from www.ime.usp.br/~galves/artigos/sonopres.pdf

6. *On the universal linear relation between one and two-point correlations of the speech sonority*, with P. Collet, D. Demolin and J. Garcia, Colloque Mathematics and phonology (MathPhon I), Orléans, August 31-September 2, 2006.

LECTURE NOTES

1. *Um modelo estocástico para o fluxo de calor*, in *Tópicos de Teoria das probabilidades*, ed. A. Araujo, 13^o Colóquio Brasileiro de Matemática, 1981.

2. *Introdução aos sistemas markovianos de partículas*, with A. Nogueira and M. E. Vares, V SINAPE, 1982.

3. *Percolação orientada e o processo de contacto*, with E. Andjel, VIII SINAPE, 1988.

4. *Acoplamento em Processos Estocásticos e Aplicações*, with P. Ferrari, 21^o Colóquio Brasileiro de Matemática, 1997.

5. *Coupling, renewal and perfect simulations of chain of infinite order*, with R. Fernández and P. Ferrari, 5^a Escola Brasileira de Probabilidades, 2001. Can be retrieved from www.ime.usp.br/galves/livro/revised2.pdf

THESES AND DISSERTATIONS ADVISING

1. Pablo Augusto Ferrari

Mestrado (Title of the thesis: *Acoplamento de Vaserstein e Associação de Sistemas Markovianos de Partículas*, November, 1978.

2. Gersony Lastebasse Hildebrand

Mestrado (Title of the thesis: *Comportamento Assintótico de Sistemas de Partículas com Interação em \mathbb{Z}*), December, 1980.

3. Irene Morsolotto Ferreira

Mestrado (Title of the thesis: *Distribuições Invariantes com respeito ao Processo de Mistura em \mathbb{Z}*), November, 1982.

4. Roberto Henrique Schonmann

Doutoramento (Title of the dissertation: *Metaestabilidade para o Processo de Contacto: extensão dos teoremas básicos e estudo das flutuações*), June, 1984.

Parts of this dissertation were published in the articles:

Metastability for the contact process, J. Statistical Physics, **41**, 445, 1985;

Central limit theorem for the contact process, Ann. Prob. **14**, 1291-1295, 1986.

5. Cláudia Monteiro Peixoto

Mestrado (Title of the thesis: *Aproximação do Equilíbrio e Tempos Exponenciais para um Passeio Aleatório no Hipercubo*), March, 1992.

6. Adilson Simonis

Doutoramento (Title of the dissertation: *Grandes Flutuações de Densidade e Metaestabilidade no Processo de Contacto Supercrítico*), March, 1995.

Parts of this dissertation were published in the articles:

Filling the hypercube in the supercritical contact process in equilibrium, Markov Processes and Related Fields **1**, 1998.

Metastability of the d -Dimensional Contact Process, Journal of Statistical Physics, Vol **83**, Nos 5 / 6, 1225-1239, 1996.

This dissertation received the "Francisco Aranda Ordaz" prize, attributed in 1998 by the Latin American Chapter of the Bernoulli Society, as best PhD dissertation on Statistics and Probability by a Latin American in the period 1995-1998.

7. Miguel Abadi

Doutoramento (Title of the dissertation: *Instantes de Ocorrência de Eventos Raros em Processos Misturadores*), April, 2001.

Parts of this dissertation were published in the articles:

Inequalities for the occurrence times of rare events in mixing processes. The state of the art, Markov Proc. Rel. Fields **7**, 97-112, 2001.

Exponential approximation for hitting times in mixing processes, Math. Phys. Electron. J, **7**, No.2 (19pp), 2001, can be downloaded from URL <http://www.ma.utexas.edu/mpej/MPEJ>.

Sharp error terms and necessary conditions for exponential hitting times in mixing processes, Ann. Probab. **32**, 243-264, 2004.

8. Daniela Guiol

Doutoramento (Title of the dissertation: *Comportamento assintótico de estimadores da entropia para cadeias de ordem infinita com perda de memória exponencial*), December, 2001.

Parts of this dissertation were published in the article *Fluctuations of the empirical entropies of a chain of infinite order*, Math. Phys. Electron. J, **9**, No.5, 2003.

9. Denise Duarte

Doutoramento (Title of the dissertation: *Aproximações markovianas e reamostragem para cadeias de ordem infinita com aplicação à linguística*), February, 2003.

Parts of this dissertation were published in the article

Bootstrap central limit theorem for chains of infinite order via Markov approximations, Markov Proc. Rel. Fields **11**, 443-464, 2005.

10. Suzi Alves Camey

Doutoramento (Title of the dissertation: *Blocos de consenso, esquemas regenerativos e estimação em tempo polinomial de longas amostras de cadeias de Markov ocultas*), August, 2005.

11. Florencia Graciela Leonardi

Doutoramento (Title of the dissertation: *Cadeias estocásticas parcimoniosas com aplicações à classificação e filogenia das seqüências de proteínas*), January, 2007.

Parts of this dissertation were published in the articles

A generalization of the PST algorithm: modeling the sparse nature of protein sequences, Bioinformatics **22(11)**, 1302-1307, 2006.

Exponential inequalities for empirical unbounded context trees, with F. Leonardi. In: Progress in Probability. Editors: V. Sidoravicius and M. E. Vares. Birkhauser , 2008. Can be retrieved from ArXiv: [math/0710.5900v1](https://arxiv.org/abs/math/0710.5900v1).

12. Divanilda Maia Esteves

Doutoramento (Title of the dissertation: *Um esquema regenerativo visível em cadeias de alcance variavel no limitado*), March, 2007.

13. Estéfano Alves de Souza

Mestrado (Title of the thesis: *O problema de Monge-Kantorovich para duas medidas de probabilidade sobre um espaço finito*), February, 2009.

14. Alexsandro Gallo

Doutoramento (Title of the dissertation: *Simulação perfeita de cadeias de alcance variável não limitado*), October, 2009.

Parts of this dissertation were published in the article

Chains with unbounded variable length memory: perfect simulation and visible regeneration scheme, Advances in Applied Probability, 43, Number 3, 735-759, 2011.

15. Estéfano Alves de Souza

Doutoramento (Title of the dissertation: *Simulação perfeita e aproximações de alcance finito em sistemas de spins com interações de longo alcance*), March 2013.

16. Karina Yuriko Yaginuma

Doutoramento (Title of the dissertation: *Modelagem estocástica de uma população de neurônios*), March 2014.

17. Guilherme Ost de Aguiar

Doutoramento (Title of the dissertation: *Hydrodynamic limit for spatially structured interacting neurons*), 2015

18. Aline Duarte de Oliveira

Doutoramento (Title of the dissertation: *Stochastic models in neurobiology: from a multiunitary regime to EEG data*), 2015

19. Bruno Monte de Castro

Doutoramento (Title of the dissertation: *Processos estocásticos conduzidos por cadeias com memória de alcance variável e o Jogo do Goleiro*), 2016

20. Douglas Rodrigues Pinto.

Doutoramento (Title of the dissertation: *Processos de salto com memória de alcance variaável*), 2016.

POST-DOCTORAL SUPERVISION

1. Xavier Bressaud (1996-1998, with a FAPESP grant)
2. Hervé Guiol (1996-1997, with a FAPESP grant)
3. Dàvide Gabrielli (2000, with a FAPESP grant)
4. Jean-René Chazottes (2000-2001, with a FAPESP grant)
5. Jesús Garcia (2004, with a FAPESP grant)
6. Anne Cros (2004-2005, with a CNPq grant)
7. Florencia Leonardi (2007- 2008, with a FAPESP grant)
8. Daniel Yasumasa Takahashi (2008-2010, with a FAPESP grant)
9. Matthieu Lerasle (2009-2011, with a FAPESP grant)
10. Aldana Maria González Montoro (2014-2015, with a FAPESP grant)
11. Michelle Miranda (2014-2016, with a FAPESP grant)
12. Ludmila Brochini (2016, with a CNPq grant, 2017-2018, with a FAPESP grant)
13. Pierre Hodara (2016-2018, with a FAPESP grant)
14. Achillefs Tzioufas (2016-2017, with a FAPESP grant)
15. Noslen Hernández González (2017-2018, with a FAPESP grant)
16. Ioannis Papageorgiou (2017-2018, with a FAPESP grant).

HONORS

1. Member of the *Academia Brasileira de Ciências (Brazilian Academy of Sciences)*, (Associated Member, from March, 1996 to March, 1997; Titular, since then.)
2. Member of the *Ordem Nacional do Mérito Científico (Brazilian National Order of Scientific Merit)*, (Comendador in July, 2002, and Grã-Cruz, in October, 2007).

GRANTS

1. CNPq individual research grant, since 1980 (present level 1A)

2. FAPESP *Research, Innovation and Dissemination Center on Neuromathematics* (coordinator), R\$9,932,535.82 for the period August 2013-November 2018 (FAPESP grant number 2013/07813-1) extended to December 2018-July 2024.
3. USP Edital de Apoio à Pesquisa, project *Mathematics, computation, language and the brain*, R\$1,998,022.00 for the period May 2011-April 2013
4. Capes-Nuffic scientific agreement Brazil-The Netherlands, project *Modelagem estocástica da plasticidade cortical. Aplicações na avulsão traumática do plexo braquial e sua reconstrução cirúrgica.*, period 2012-2014.
5. CNPq research grant (Edital Universal 2009), R\$ 128,000.00 Project *Stochastic systems with interaction of variable range*, for the period January 2010-December 2011, (grant number 476501/2009-1).
6. USP-COFECUB program (Edital 2009), R\$ 62,661.28, project *Stochastic systems with interaction of variable range*, for the period March 2010-February 2012.
7. FAPESP research grant, *Programa Pronex/Temático FAPESP* (R\$ 295,000.00) for the period October, 2004 to March, 2009 (grant number 03/09930-9).
8. CNPq research grant (Edital Universal 2005), Project *Stochastic modeling of speech*, (grant number 475177/2004-5).
9. Pronex research grant (US\$ 650,000) for the period December, 1996 to December, 2001 (grant number 66.2177/1996-6).
10. CNPq research grant (R\$ 95,903.00) (Edital 2000) for the period November, 2000 to November, 2001 (grant number 465928/2000-5).
11. FAPESP research grants (*Projeto Temático*) for the periods 1991-1994, 1995-1998 and 1998-2001.

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