# Daniel Yasumasa Takahashi

Curriculum Vitae

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## Personal Information

**Full name** Daniel Yasumasa Takahashi

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## Formal Education

**2010 - present** Postdoctoral Research Fellow.

Department of Psychology

Princeton University, Princeton, NJ USA Scholarship: Pew Latin American Fellowship Supervisor: Asif Ghazanfar

**2009 - 2010** Postdoctoral Research Fellow.

Institute of Mathematics and Statistics

Universidade de São Paulo, USP, Sao Paulo, Brazil

Scholarship: Fundação de Amparo à Pesquisa do Estado de São Paulo Supervisor: Antonio Galves

**2004 - 2009** PhD in Bioinformatics.

Universidade de São Paulo, USP, Sao Paulo, Brazil

(Co-guardianship) Universidade de São Paulo (Advisor : Luiz Antonio Baccalá) Title: Medidas de Fluxo de Informação com Apicação em Neurociência, Advisor: Koichi Sameshima

Scholarship: Coordenação de Aperfeiçoamento de Pessoal de Nível Superior

**2004 - 2008** Bachelor's in Matemática Aplicada e Computacional. Universidade de São Paulo, USP, Sao Paulo, Brazil Title: Teorema do Núcleo de Schwartz

Advisor: Paulo Domingos Cordaro

**1998 - 2003** Medical degree.

Universidade de São Paulo, USP, Sao Paulo, Brazil

Title: Redes neurais artificiais no auxílio ao diagnóstico da doença de Alzheimer Advisor: Koichi Sameshima

Scholarship: Conselho Nacional de Desenvolvimento Científico e Tecnológico

## Honors and Awards

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| **2010** | Pew Latin American Fellowship |
| **2007** | Travel Grant Award - 10th Tamagawa-Riken Dynamic Brain Forum |
| **2006** | Best Work Award - I Latin American School on Computational Neuroscience |
| **2002** | Oswaldo Cruz Award in medical research – Honorable mention |
| **1997** | Bronze medal – Brazilian Mathematical Olympiad |

**Bibliographic Production**

### Articles Published in Refereed Journals

29. Ghazafar A, and TAKAHASHI DY (2014)

Facial expressions and the evolution of the speech rhythm.

*Jurnal of Cognitive Neuroscience*, in press.

28. Fujita A, TAKAHASHI DY, Patriota A (2014)

A non-parametric method to estimate the number of clusters.

*Computational Statistics and Data Analysis*, in press.

27. TAKAHASHI DY, Narayanan DZ, Ghazanfar AA (2013) Coupled oscillator dynamics of vocal turn-taking in monkeys. *Current Biology*, v. 23, 2162-2168.

26. Santos SS, TAKAHASHI DY, Nakata A, Fujita A (2013)

A comparative study of statistical methods used to identify dependencies between gene expression signals

*Briefing in Bioinformatics*, doi: 10.1093/bib/bbt051

25. Baccalá LA, de Brito CS, TAKAHASHI DY, Sameshima K (2013) Unified asymptotic theory for all partial directed coherence forms *Philosophical Transactions of the Royal Society A*, v. 371, 20120158

24. Sato JR., TAKAHASHI DY, Hoexeter, MQ, Massirer KM, Fujita A (2013)

Measuring network's entropy in ADHD: A new approach to investigate neuropsychiatric disorders

*Neuroimage*, v77, p. 44-51.

23. Gallo S, Lerasle M, TAKAHASHI DY (2013)

Markov approximations of chains of infinite order in the $\bar{d}$-metric

*Markov Processes and Related Fields*, v. 19, 51-82.

22. Gallo S and TAKAHASHI DY (2012)

Attractive regular stochastic chains: perfect simulation and phase transition.

*Ergodic Theory and Dynamical System*, FirstView, p.1-20, <http://dx.doi.org/10.1017/etds.2013.7>

21. TAKAHASHI DY, Sato JR, Ferreira CE, Fujita A (2012)

Discriminating different classes of biological networks by analyzing the graphs spectra distribution.

*PLoS ONE,* v. 7(12): e49949. doi:10.1371/journal.pone.0049949

20. Ghazanfar AA, TAKAHASHI DY, Mathur NA, Fitch WT (2012)

Cineradiography of monkey lipsmacking reveals the putative origins of speech dynamics.

*Current Biology*, v. 22, p. 1176-1186.

19. Lerasle M and TAKAHASHI DY (2011)

An oracle approach for interaction neighborhood estimation in random fields.

*Electronic Journal of Statistics*, v. 5, p. 534-571.

18. TAKAHASHI DY, Baccalá LA and Sameshima K (2010)

Information theoretic interpretation of frequency domain connectivity measures.

*Biological Cybernetics*, v.103, p. 463-469.

17. Sato JR , TAKAHASHI DY, Arcuri SM, Sameshima K, Morettin PA, Baccalá, LA (2009) Frequency domain connectivity identification: An application of partial directed coherence in fMRI. *Human Brain Mapping*, v. 30, p. 452-461.

16. Dzirasa K., Ramsey AJ, TAKAHASHI DY, Stapleton J, Potes JM, Williams JK, Gainetdinov RR, Sameshima K, Caron MG, Nicolelis MAL (2009)

Hyperdopaminergia and NMDA Receptor Hypofunction Disrupt Neural Phase Signaling.

*The Journal of Neuroscience*, v. 29, p. 8215-8224.

15. Raicher I, Shimizu M, TAKAHASHI DY, Nitrini R, Caramelli P (2008)

Alzheimer's disease diagnosis disclosure in Brazil: a survey of specialized physicians' current practice and attitudes.

*International Psychogeriatrics*, v. 20, p. 471-481.

14. TAKAHASHI DY, Baccalá L, Sameshima, K (2008)

Partial directed coherence asymptotics for VAR processes of infinite order.

*International Journal of Bioelectromagnetism*, v. 10, p. 31-36.

13. Lopes RI, Nogueira L, Albertotti CJ, TAKAHASHI DY, Lopes RN (2008)

Comparison of of virtual cystoscopy and transabdominal ultrasonography with conventional cystoscopy for bladder tumor detection.

*Journal of Endourology*, v. 22, p. 1725-1729.

12. Shimizu M, Raicher I, TAKAHASHI DY, Caramelli P, Nitrini R (2008)

Disclosure of the diagnosis of Alzheimer's disease: caregivers' opinions in a Brazilian sample.

*Arquivos de Neuro-Psiquiatria*, v. 66, p. 625-630.

11. Raicher I, TAKAHASHI DY, Kanda PAM, Nitrini R, Anghinah R (2008)

qEEG spectral peak in Alzheimer's disease: a possible tool for treatment follow-up.

*Dementia & neuropsychologia*, v. 2, p. 9-12.

10. TAKAHASHI DY, Baccalá LA, Sameshima K (2007) Connectivity Inference via Partial Directed Coherence. *Journal of Applied Statistics*, v. 34, p. 1259-1273.

9. Vittielo AP, Ciriaco JG, TAKAHASHI DY, Nitrini R, Caramelli P (2007)

Brief cognitive evaluation of patients attended in a general neurological outpatient clinic.

*Arquivos de Neuro-Psiquiatria*, v. 65, p. 299-303.

8. Sato JR, Felix MM, TAKAHASHI DY, Amaro Jr E, Brammer MJ, Morettin PA (2006)

A method to produce evolving functional connectivity maps during the course of an fMRI experiment using wavelet based time-varying Granger causality.

*NeuroImage*, v. 31, p. 187-196.

7. Sato JR, TAKAHASHI DY, Cardoso EF, Martin MGM, Amaro Jr E, Morettin PA (2006) Intervention Models in Functional Connectivity Identification Applied to fMRI. *International Journal of Biomedical Imaging*, v. 2006, p. 1-7.

6. Nitrini R,Caramelli P, Herrera E, Castro I, Bahia VS, Anghinah R, Caixeta L, Radanovic M, Charchat-Fichman H, Porto CS, Carthery MT, Hartmann APBJ, Huang N, Smid J, Lima P, TAKAHASHI DY, Takada LT (2005)

Mortality from dementia in a community-dwelling Brazilian population .

*International Journal of Geriatric Psychiatry*, v. 20, n. 3, p. 247-253.

5. Nitrini R, Caramelli P, Herrera E, Bahia VS, Caixeta L, Radanovic M, Anghinah R, Charchat-Fichman H, Porto CS, Carthery MT, Hartmann APBJ, Huang N, Smid J, Lima P, Takada LT, TAKAHASHI DY (2005) Incidence of dementia in a community-dwelling Brazilian population.

*Alzheimer Disease and Associated Disorders*, v. 18, n. 4, p. 241-246.

4. Sameshima K, TAKAHASHI DY, Baccalá, LA (2005)

Avaliando a complexidade da dinâmica cardiovascular por entropia amostral.

*Revista Brasileira de Hipertenção*, v. 12, n. 1, p. 27-32.

3. Anghinah R, Caramelli P, TAKAHASHI DY, Nitrini R, Sameshima K (2005) EEG alpha band coherence analysis in healthy adults: preliminary results. *Arquivos de Neuro-Psiquiatria*, v. 63, n. 1, p. 83-86.

2. Costa GGO, Ctenas BB, TAKAHASHI DY, Mion O, Mello JJF, Butugan O (2005)

Comparação entre a Rinometria Acústica, 'Peak Flow'Nasal Inspiratório e sua Correlação com Sintomas e Sinais Clínicos de Rinite.

*Arquivos de Otorrinolaringorologia*, v. 9, n. 3, p. 203-211.

1. Hartmann APBJ, Almeida SM, Livramento JA, Nitrini R, TAKAHASHI DY, Caramelli P (2004) Hyperphosphorylated tau protein in the cerebrospinal fluid of patients with Alzheimer's disease and other dementias: preliminary findings.

*Arquivos de Neuro-Psiquiatria*, v. 62, n. 3b, p. 751-755.

### Book Chapters

1. TAKAHASHI DY, Baccalá LA, Sameshima K (2014) Information Partial Directed Coherence

In: Methods in Brain Connectivity Inference through Multivariate Time Series Analysis, p. 75-86.

1. Baccalá LA, TAKAHASHI DY, Sameshima K (2014) Asymptotic PDC Properties

In: Methods in Brain Connectivity Inference through Multivariate Time Series Analysis, p. 113-131.

1. Baccalá LA, TAKAHASHI DY, Sameshima K (2006) Computer intensive testing for the influence between time-series

In: Handbook of Time Series Analysis ed: Wilterhalter; Schelter; Timmer, Springer, p. 411-435.

1. Sameshima K, TAKAHASHI DY (2004) Métodos Quantitativos em Medicina

In: Métodos Quantitativos em Medicina ed.São Paulo : Manole, v.1, p. 493-526.

1. TAKAHASHI DY, Charchat H, Nitrini R, Caramelli P, Sameshima K (2000)

Exploração de redes neurais artificiais no auxílio ao diagnóstico neuropsicológico da doença de Alzheimer. In: Anais do I congresso de lógica aplicada à tecnologia - LAPTEC.1 ed.São Paulo : Plêiade, v.1, p. 359-371.

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1. Brito SC, Baccalá LA, TAKAHASHI DY, Sameshima K (2010) Asymptotic behavior of generalized partial directed coherence

*IEEE Engineering in Medicine and Biology Society. Conf.* , v.1, p.1718 - 1721.

1. TAKAHASHI DY, Baccalá LA, Sameshima K (2010)

Frequency domain connectivity: an information theoretic perspective

*IEEE Engineering in Medicine and Biology Society. Conf.* , v.1, p.1726 - 1729.

1. Baccalá LA, TAKAHASHI DY, Sameshima K (2007) Generalized Partial Directed Coherence

*InternationalConference on Digital Signal Processing*, v.1. p.162 - 166

1. TAKAHASHI DY, Charchat H, Caramelli P, Nitrini R, Sameshima K

Análise da não-linearidade do modelo diagnóstico neuropsicológico da doença de Alzheimerpor redes neurais artificiais

*Anais do VII congresso brasileiro de informática em saúde*, 2000.

### Abstract Presented in Conferences

1. TAKAHASHI, D. Y., BACCALÁ, Luiz Antonio, Lebedev, M.A., SAMESHIMA, Koichi, NICOLELIS, Miguel In: Neuroscience 2006, 2006, Atlanta.

**Neuroscience 2006**. , 2006.

1. SAMESHIMA, Koichi, TAKAHASHI, D. Y., BACCALÁ, Luiz Antonio In: Neuroscience 2006, 2006, Atlanta.

**Neurosience 2006**. , 2006.

1. TAKAHASHI, D. Y., SATO, João Ricardo, SAMESHIMA, Koichi, BACCALÁ, Luiz Antonio, MORETTIN, Pedro Alberto, GALVES, Antonio

In: 9 Escola Brasileira de Probabilidade, 2005, São Sebastião.

. , 2005.

1. SATO, João Ricardo, FELIX, Marcelo de Maria, TAKAHASHI, D. Y., AMARO JUNIOR, Edson, MORETTIN, Pedro Alberto

In: Congresso Brasileiro de Neuroimagem Funcional, Ribeirão Preto.

### Congresso Brasileiro de Neuroimagem Funcional. , 2005.

1. BACCALÁ, Luiz Antonio, SANTOS, Lucas Manoel dos, TAKAHASHI, D. Y., SAMESHIMA, Koichi, NICOLELIS, Miguel

In: Society for Neuroscience, 2005, Washington DC.

### Proceedings of Society for Neuroscience. , 2005.

1. SATO, João Ricardo, FELIX, Marcelo de Maria, TAKAHASHI, D. Y., AMARO JUNIOR, Edson, MORETTIN, Pedro Alberto

In: 11 ESCOLA DE SÉRIES TEMPORAIS, 2005, Espírito Santo.

### ANAIS DA 11 ESCOLA DE SÉRIES TEMPORAIS. , 2005.

1. CHOI, Andrea Yoon, TAKAHASHI, D. Y., VALLE, Angela Cristina Do, SAMESHIMA, Koichi

In: XX Reunião anual das Federações de Sociedades de Biologia Experimental, 2005, Aguas de Lindóia.

. , 2005.

1. TAKAHASHI, D. Y., BACCALÁ, Luiz Antonio, SAMESHIMA, Koichi

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. , 2005.

1. TAKAHASHI, D. Y., BACCALÁ, Luiz Antonio, CARAMELLI, Paulo, NITRINI, Ricardo, SAMESHIMA, Koichi In: XVII Reunião Anual da Federação de Sociedades de Biologia Experimental, 2002, Salvador.

### Anais da XVII Reunião Anual da Federação de Sociedades de Biologia Experimental. Fesbe, 2002.

1. TAKAHASHI, D. Y., GOMIDE, V., CHADI, G. In: Fesbe, Salvador.

### Anais do XVII Reunião Anual da Federação de Sociedades de Biologia Experimental. Fesbe, 2002.

1. TAKAHASHI, D. Y., ANGHINAH, Renato, CARAMELLI, Paulo, NITRINI, Ricardo, BACCALÁ, Luiz Antonio, SAMESHIMA, Koichi

In: 9 SIMPÓSIO INTERNACIONAL DE INICIAÇÃO CIENTÍFICADA USP, 2001, Ribeirão Preto.

### ANAIS DO 9 SIMPÓSIO INTERNACIONAL DE INICIAÇÃO CIENTÍFICADA USP. , 2001.

1. SAMESHIMA, Koichi, ANGHINAH, Renato, TAKAHASHI, D. Y., CARAMELLI, Paulo, NITRINI, Ricardo, BACCALÁ, Luiz Antonio

In: 31st ANNUAL MEETING SOCIETY FOR NEUROSCIENCE, 2001, 2001, San Diego.

**Soc. Neurosci. Abstr.**. Washington: Society for Neuroscience, 2001.

1. TAKADA, Leonardo Tadao, BAHIA, Valéria Santoro, HUANG, Nancy, RADANOVIC, Márcia, CARTHERY, Maria Teresa, TAKAHASHI, D. Y., CAIXETA, Leonardo

In:

**Arquivos de Neuro-Psiquiatria**. , 2001. v.59. p.58 - 58

1. TAKAHASHI, D. Y., ANGHINAH, Renato, CARAMELLI, Paulo, NITRINI, Ricardo, BACCALÁ, Luiz Antonio, SAMESHIMA, Koichi

In:

**Arquivos de Neuro-Psiquiatria**. , 2001. v.59. p.46 - 46

1. NITRINI, Ricardo, HERRERA, H., CARAMELLI, Paulo, ALENCAR, G. P., BAHIA, Valéria Santoro, CAIXETA, Leonardo, ANGHINAH, Renato, TAKAHASHI, D. Y., TAKADA, Leonardo Tadao

In:

**Arquivos de Neuro-Psiquiatria**. , 2001. v.59. p.40 - 40

1. TAKAHASHI, D. Y., VALLE, Angela Cristina Do, OLIVEIRA, M. C., SAMESHIMA, Koichi, TIMO-IARIA, C. In: XVI REUNIÃO DA FEDERAÇÃO DE SOCIEDADES DE BIOLOGIA EXPERIMENTAL, 2001, Caxambu. **ANAIS DO XVI REUNIÃO DA FEDERAÇÃO DE SOCIEDADES DE BIOLOGIA EXPERIMENTAL**. , 2001.

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1. TAKAHASHI, D. Y., ANGHINAH, Renato, CARAMELLI, Paulo, NITRINI, Ricardo, BACCALÁ, Luiz Antonio, SAMESHIMA, Koichi

In: XVI REUNIÃO DA FEDERAÇÃO DE SOCIEDADES DE BIOLOGIA EXPERIMENTAL, 2001, Caxambu.

### ANAIS DA XVI REUNIÃO DA FEDERAÇÃO DE SOCIEDADES DE BIOLOGIA EXPERIMENTAL. , 2001.

p.48 - 48

1. HARTMANN, Ana Paula Barbosa Jeronimo, ANGHINAH, Renato, TAKAHASHI, D. Y., CAIXETA, Leonardo, LIMA, E. E. P., SMID, Jerusa, PORTO, Claudia Sellito

In:

**Arquivos de Neuro-Psiquiatria**. , 2001. v.59. p.60 - 60

1. TAKAHASHI, D. Y., CHARCHAT, H., CARAMELLI, Paulo, NITRINI, Ricardo, SAMESHIMA, Koichi

In: XV REUNIÃO DA FEDERAÇÃO DE SOCIEDADES DE BIOLOGIA EXPERIMENTAL, 2000, Caxambu.

### ANAIS DA XV REUNIÃO DA FEDERAÇÃO DE SOCIEDADES DE BIOLOGIA EXPERIMENTAL. , 2000.

p.105 - 105

1. TAKAHASHI, D. Y., CHARCHAT, H., NITRINI, Ricardo, CARAMELLI, Paulo, SAMESHIMA, Koichi In: XIX CONGRESSO BRASILEIRO DE NEUROLOGIA, 2000, Salvador.

**ANAIS DO XIX CONGRESSO BRASILEIRO DE NEUROLOGIA**. Associação Arquivos de

Neuro-Psiquiatria Dr. Oswaldo lange, 2000. v.58. p.87 - 87

### Articles in Magazines

1. Takahashi, D. Y.

Total Saúde. , v.30, p.14 - 14, 2010. [http://www.revistatotalsaude.com.br/Default.aspx?Tabid=55&ItemID=128](http://www.revistatotalsaude.com.br/Default.aspx?Tabid=55&amp;ItemID=128)

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Total Saúde. , p.12 - 13, 2010. [http://www.revistatotalsaude.com.br/Default.aspx?Tabid=56&ItemID=148](http://www.revistatotalsaude.com.br/Default.aspx?Tabid=56&amp;ItemID=148)