

# Curriculum Vitae

**Tanya Vianna de Araújo**

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## 1 Identification

Nome: Tanya Vianna de Araújo

Place of birth: Rio de Janeiro, Brazil

Nacionalities: Brazilian and Portuguese

Address: R. Miguel Lúpi, 20, 1249-078 Lisboa

Telephone: +351 21 392 5987 Fax: +351 21 396 6407

*https: //aquila1.iseg.utl.pt/aquila/homepage/f291/ email: tanya@iseg.utl.pt*

## 2 Academic Degrees

**Agregação em Economia**, Instituto Superior de Economia e Gestão, Technical University of Lisbon - 2007.

**Doctor of Philosophy (Ph. D.): Applied Mathematics**, Instituto Superior de Economia e Gestão, Technical University of Lisbon - 1995.

**First Degree in Mathematics**, Universidade Federal do Rio de Janeiro (UFRJ), Rio de Janeiro - 1981.

## 3 Current Position

Associate professor, Economics Department, ISEG - Instituto Superior de Economia e Gestão, Universidade Técnica de Lisboa, since 2009.

## 4 Previous Positions

- Assistant Professor of the Department of Economics of ISEG/UTL - Technical University of Lisbon, 1995-2009.
- Invited researcher at INESC - Systems Engineering Institute, 1991-1995.
- Invited Teaching Assistant of ISEG/UTL, 1985-1995.

## 5 Research

### 5.1 Research Areas

1. Computacional Economics
2. Financial Markets
3. Complex Systems including the study of network dynamics and the analysis and reconstruction of stochastic processes

### 5.2 Research Projects

1. Scientific co-ordinator of the project **Markets as Economic Laboratories**, FCT - UECE, with F.Lou, M. St.Aubyn and R. Vilela Mendes, 2006-2009.
2. Scientific co-ordinator of the project **Non-linear methods in the study of Epilepsy**, with A. Martins da Silva (H.Sto.Antnio, Porto), TECNIFAR Lab. 2004/2005 and 2005/2006.
3. Scientific co-ordinator of the area **Mathematical and Quantitative Methods**, UECE, since 2003, whit the following ongoing sub-projects:
  - a. **Multidimensional Scaling and the Market Geometry**, with R. Vilela Mendes (ACL), F. Louçã (ISEG-UECE) and S. Eleutério (IST)
  - b. **Self-organization and Interaction Dynamics**, with Sven Banisch (Univ. Bielefeld)
  - c. **Modelling Economic Networks**, with J. Ferreira do Amaral, J. Dias and J. Carlos Lopes (ISEG-UECE).

### 5.3 Research Networks

1. ASSYST, **Science of Complex Systems for Socially intelligent ICT**, Seventh Framework Programme EU, EC.
2. ONCE-CS: Open Network of **Centres of Excellence in Complex Systems**, EC.
3. EXYSTENCE, **The Complex Systems Network of Excellence**, Future and Emerging Technology unit (FET).
4. **Zentrum fur Interdisziplinare Forschung (ZiF)** project "The Sciences of Complexity: From Mathematics to Technology to a Sustainable World", Bielefeld, 2000.

## 6 Publications

1. **Social capital and economic performance: trust and distrust in eighteenth century-gold flows** with L. Costa and M. Rocha, *European Review of Economic History*, 15 (2011) 1-27
2. **On the empirical relevance of the transient in opinion models**, with Sven Banisch, *Physics Letters A*, 374 (2010), 3197-3200
3. **Opinion Dynamics and Communication Networks**, with J. Louçã, J. and S. Banisch, *Advances in Complex Systems*, V.2 n.7 (2010), 1-17
4. **Network effects in the human capital model based Economic Growth**, with Vaz Martins, T., Santos, MA and St. Aubyn, M. *Physica A*, V. 388 (2009) 2207-2214
5. **Innovation Success and Structural Change: An abstract agent based study**, with R. Vilela Mendes, *Advances in Complex Systems*, V. 1 (2009) 233-253
6. **The labour market on the hypercube**, with Gérard Weisbuch, *Physica A: Statistical Mechanics and its Applications*, 387 (2008) 1301-1310
7. **Education, neighbourhood effects and growth: an agent based model approach**, with M. St.Aubyn, *Advances in Complex Systems*, 11 (2008) 99-117
8. **The Seismography of Crashes in Financial Markets**, with F. Louçã, *Physics Letters A*, 372 (2008) 429-434

9. **The geometry of crashes: a measure of the dynamics of stock market crises**, with F. Louçã, *Quantitative Finance*, 7 (2007) 63-74
10. **Hypercompetitive environments: an agent based model approach**, with M. Velada Dias, *Interjournal of the New England Complex System Institute*, 1688 (2006) 11-18
11. **Dynamical characterization of the small-world phase**, with R. Vilela Mendes and J. Seixas, *Physics Letters A*, 319 (2003) 285-289
12. **Reconstructing an economic space from a market metric**, with R. Vilela Mendes and F. Louçã, *Physica A: Statistical Mechanics and its Applications*, 323 (2003) 635-650
13. **A process-reconstruction analysis of market fluctuations**, with R. Vilela Mendes and R. Lima, *Int. J. of Theoretical and Applied Finance*, 5 (2002) 797-821
14. **Function and form in networks of interacting agents**, with R. Vilela Mendes, *Complex Systems*, 12 (2000) 357-378
15. **Object-oriented hierarchies and their resulting complex systems**, *Computer Systems Science and Engineering Journal*, 14 (1999) 113-125
16. **Where is complexity?**, with J. Caraça, *Interjournal of the New England Complex System Institute*, 1688 (1999) 21-30

#### Submitted papers

1. **Agent Based Models and Opinion Dynamics as Markov chains**, with Sven Banisch and R. Lima, August 2011.
2. **Portfolios and the market geometry**, with S. Eleutério and R. Vilela Mendes, September 2011.

#### Languages skills

Portuguese (native tongue); English (fluent); French (very good); Spanish (fair working knowledge);