

# Curriculum Vitae

João Neves Silva

## **PERSONAL DETAILS**

**Name:** João Manuel das Neves Silva

**Date of birth:** 26<sup>th</sup> July 1971

**Nationality:** Portuguese

**Marital Status:** Married, 3 children

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### **Work Address:**

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## **ACADEMIC QUALIFICATIONS**

**Ph.D.**, 2005, "*Mapping Burned Areas in Tropical, Temperate and Boreal Regions Using Remote Sensing Data from SPOT 4 – VEGETATION*", Department of Forestry, School of Agriculture, Technical University of Lisbon, Portugal.

**Master**, 1999, *Applied Mathematics*, Department of Mathematics, School of Agriculture, Technical University of Lisbon, Portugal.

**Graduation**, 1996, *Forestry*, Department of Forestry, School of Agriculture, Technical University of Lisbon, Portugal.

## **CAREER**

**July 2009 – present:** *Research Associate*, School of Agriculture, Technical University of Lisbon, Portugal (funding from CC2008 program, Portuguese Foundation for Science and Technology - FCT).

**April 2007 – June 2009:** *Postdoctoral Researcher*, Tropical Research Institute (IICT), Lisbon, Portugal. Funded by the Portuguese Foundation for Science and Technology (FCT) through the postdoctoral grant SFRH/BPD/26773/2006: "*Incorporating fire as an agricultural management tool in the mLPJ dynamic global vegetation mode*".

**July 2004 – March 2007:** *Postdoctoral Researcher*, School of Agriculture, Technical University of Lisbon, Portugal.

**January – June 2001:** *Visiting Scientist*, Global Environment Monitoring Unit, Joint Research Centre (JRC) of the European Commission, Ispra, Italy.

**July 2000 – June 2004:** *Ph.D. Student*, School of Agriculture, Technical University of Lisbon, Portugal. Ph.D. grant from the Portuguese Foundation for Science and Technology (FCT): SFRH/BD/1026/2000.

**January 1996 – June 2000:** *Research Assistant*, School of Agriculture, Technical University of Lisbon, Portugal.

**January – September 1994:** *High School Teacher - Biology*, Escola Secundária de Miraflores, Oeiras, Portugal.

## **SCIENTIFIC INTERESTS**

- Monitoring of biomass burning and land use/cover change by remote sensing.
- The impacts of fire and the relationship between fire and vegetation dynamics, with an emphasis on the greenhouse gas emissions to the atmosphere and on the impacts in the carbon cycle.
- The study of the human-environment relationship (e.g., drivers and impacts of land use change, deforestation, natural resource management).

## **PRESENT RESEARCH INTERESTS**

The purpose of my current research is to improve the understanding and modelling of the impacts of shifting cultivation, also known as slash-and-burn agriculture, in the forests and woodlands of tropical regions. The emphasis is on the role of fire in the carbon cycle and on the greenhouse gas emissions to the atmosphere from biomass burning.

## **RESEARCH PROJECTS**

**11.** Co-investigator, research project *Remote Sensing of Regenerating Tropical Forests in Brazil: Mapping and Retrieving Biophysical Parameter* (REGROWTH-BR) funded by the Foundation for Science and Technology (FCT), Ministry of Science, Technology and Higher Education (MCTES), Portugal (PTDC/AGR-CFL/114908/2009) (2011 – present).

**10.** Deputy project leader, research project *Deriving Fire Intensity from MSG data*, coordinated by the Faculty of Sciences of the University of Lisbon and funded by the Joint Research Centre (JRC) of the European Commission, Ispra, Italy. The main objective of this research activity is the analysis of the Fire Radiative Power (FRP) provided by the SEVIRI instrument, onboard the Meteosat Second Generation (MSG), over sub-saharan Africa. Specifically, the analysis will focus on the spatio-temporal patterns of fire intensity in four selected protected areas and in their buffer zones (2010 – present).

**9.** Co-investigator, research project *Mesoscale Atmospheric Dynamics and Pyro-convection interactions in the Amazon Region Experiment* (PyCAREx), coordinated by the *Institut Pierre-Simon Laplace/Laboratoire*

*Atmosphère, Milieux et Observations Spatiales*, Paris, France. The overarching objective of the project is to use a unique suite of airborne instrumentation to provide insight into the interactions between mesoscale dynamics and pyro-convection over the Amazon. The project aims at better understanding how Amazonian fires influence the atmospheric dynamics at this scale through modification of (i) energy and radiation budgets in the troposphere, (ii) atmospheric stability and (iii) low-level convergence, thereby contributing to their own maintenance. An aircraft-based measurement campaign using the British FAAM BAe-146 aircraft will be conducted from Porto Velho, Brazil (2010 – present).

**8.** Co-investigator, research project *Global VGT Burnt Area Product 2000-2007* (L3JRC), which is a consortium of four institutions: the University of Leicester, United Kingdom, the Université Catholique de Louvain, Belgium, the Tropical Research Institute, Lisbon, Portugal, and the Joint Research Centre (JRC) of the European Commission, Ispra, Italy. This project produced a multi-annual global map of burnt vegetation from SPOT-VEGETATION satellite imagery. I was involved in the accuracy assessment of the L3JRC product in Africa (2005 – 2008).

**7.** Co-investigator, research project *Global Burnt Area 2000* (GBA 2000), an initiative of the Joint Research Centre (JRC) of the European Commission, Ispra, Italy. The main goal of GBA 2000 was to produce a map of burned areas at the global scale for the year 2000. This map was the first global map of burned areas produced at 1km spatial resolution and it has been used by atmospheric chemists and climate change modellers. I was responsible for the development and validation of algorithms for burned area mapping in Africa, Southern Europe and China/Siberia using satellite images from the SPOT-VEGETATION and Landsat sensors. I spent six months in the Global Vegetation Monitoring Unit of Joint Research Centre (JRC), Ispra, Italy (2001 – 2003).

**6.** Co-investigator, research project *Reduction of uncertainties in estimates of atmospheric emissions from fires in southern Africa*, coordinated by the Department of Forestry of the School of Agriculture, Lisbon, Portugal, and funded by SAPIENS program (33582/99), Portuguese Foundation for Science and Technology (FCT). I was co-responsible for producing and validating a high resolution map of burned areas in Northern Mozambique derived from Landsat satellite imagery, for estimating fire behaviour parameters (e.g., combustion efficiency, rate of spread, intensity) in experimental burns in Zambia and also for characterizing the spectral properties of vegetation and burned areas and monitoring the recovery of vegetation in burned areas with a field spectroradiometer. I spent two months in total in Mozambique and Zambia doing fieldwork (2000 – 2002).

**5.** Co-investigator, research project *Southern Africa Fire-Atmosphere Research Initiative 2000* (SAFARI 2000), coordinated by the University of Virginia, U.S.A. The objectives of the SAFARI 2000 were to study the linkages between land and atmosphere processes in the southern African region, including the estimation of pyrogenic emissions of greenhouse gases. The Portuguese participation in this project, namely on field campaigns, was funded by Luso-American Development Foundation (FLAD) and Portuguese Foundation for Science and Technology (FCT) (2000).

**4.** Co-investigator, research project *Fire Regional Assessment and Carbon Tracking in Arnhem Land* (SMOKO/FRACTAL), which resulted from the collaboration between the Commonwealth Scientific and Industrial Research Organisation (CSIRO), Australia, the Joint Research Centre (JRC) of the European Commission, Ispra, Italy and the Department of Forestry of the School of Agriculture, Lisbon, Portugal. The main goal was the development and test of a multi-system approach to burnt area mapping from optical, thermal and microwave satellite data. Co-responsible for estimation of combustion efficiency and other fire behaviour parameters and characterization of the spectral properties of vegetation and burned areas with a portable spectroradiometer in fieldwork (2 weeks) conducted in the Kakadu National Park, Northern Territory, Australia, and also for burned area mapping with ERS2-ATSR satellite data (1999).

**3.** Co-investigator, research project *Development and Testing of Algorithms for a Global Burnt Area Product from ERS ATSR-2*, funded by the European Space Agency (ESA) and the Forest Research Centre (CEF) of the School of Agriculture, Lisbon, Portugal. Responsible for developing and testing algorithms for burned area mapping at global scale with images from the satellite ATSR-2 (1998).

**2.** Co-investigator, research project *Fire Activity in the Guiana Shield, the Orinoco and Amazon Basins During March 1998*, an initiative of the Joint Research Centre (JRC) of the European Commission, Ispra, Italy. The objective was the characterization of the fire activity in the northern Amazon basin and Guiana's with satellite data. Responsible for burned area mapping with AVHRR satellite imagery. My colleagues from JRC and I spent 2 weeks in Suriname, in order to capture images from the AVHRR sensor with a portable antenna. During this field campaign, we did almost real-time detection of active fires and smoke plumes based on AVHRR images, with the goal of informing the colleagues of the CLAIRE/LBA (Cooperative LBA Airborne Regional experiment / Large Scale Biosphere-Atmosphere Experiment) project about the location of those fires (1998).

**1.** Co-investigator, joint project *Fire Risk and Burned Area Mapping in Portugal*, established by the Portuguese Forest Service and the School of Agriculture, Lisbon, Portugal. The main goals of this project were the production of burned area maps for Portugal derived from Landsat satellite images and fire risk maps obtained by an integrated analysis of the relations among the pattern of fire incidence, topography, climate and population distribution. This information is meant to support the development of national fire prevention tools and policies. Responsible for burned area and land cover mapping at national scale with satellite imagery. The work included field validation of the satellite-based maps (1996 – 2004).

## **RECHEARH STUDENTS**

Sosdito Mananze (Supervisor): Master in Forestry and Natural Resources Management (2011 – present).

Alicia Horta (Co-supervisor), Master in Forestry and Natural Resources Management (2010 – present).

Irene Pecegueiro (Co-supervisor), Graduation (Forestry) Final Report: *Spatial Patterns of Burned Area Orientation in Portugal (1990-2001)* (2003).

## **TEACHING**

Lecturing of practical classes of *Remote Sensing and Image Processing* and *Fire Ecology and Management* to students at postgraduate level (Master in Forestry and Natural Resources). School of Agriculture, Technical University of Lisbon, Portugal; 2009-2010, 2010-2011 and 2011-2012 school years.

## **ACADEMIC DEGREES JURY PARTICIPATION**

Malik Amraoui, **Doctoral degree:** *Detection and Monitoring of Active Fires in Africa and Europe using MSG-SEVIRI Imagery*. Universidade de Trás-os-Montes e Alto Douro, Vila Real, Portugal, 11<sup>th</sup> February 2011.

Yannick Lucien Bernard Le Page, **Doctoral degree:** *Anthropogenic and climatic control upon vegetation fires: new insights from satellite observations to assess current and future impacts*. School of Agriculture, Technical University of Lisbon, Portugal, 27<sup>th</sup> January 2010.

Ana Cristina Lopes de Sá, **Doctoral degree:** *Remote sensing of burned areas in southern Africa: Contribution to reduction of uncertainty in fire incidence estimates*. School of Agriculture, Technical University of Lisbon, Portugal, 30<sup>th</sup> March 2009.

Joana Lisboa Brandão de Melo, **Master degree:** *Characterization of the fire regime of Guinea-Bissau. Anthropogenic influence*. School of Agriculture, Technical University of Lisbon, Portugal, 21<sup>st</sup> December 2009.

Andreia Filipa Ramos da Silva, **Master degree:** *Modelling the damages of forest fires in Portugal*. School of Agriculture, Technical University of Lisbon, Portugal, 21<sup>st</sup> December 2009.

Isabel Maria Duarte Rosa, **Master degree:** *Estimation of greenhouse gas emissions from forest fires in Portugal (1990-2008), including uncertainty and sensitivity analysis*. School of Agriculture, Technical University of Lisbon, Portugal, 26<sup>th</sup> October 2009.

Ana Margarida Grácio de Barros, **Master degree:** *Accuracy assessment of the L3JRC product in Africa for the year 2000*. School of Agriculture, Technical University of Lisbon, Portugal, 29<sup>th</sup> September 2008.

## **PEER-REVIEWING**

- Remote Sensing of Environment
- International Journal of Remote Sensing
- International Journal of Wildland Fire

- Journal of Biogeography
- Environmental Monitoring and Assessment
- Natural Hazards and Earth System Sciences

## **TRAINING COURSES**

**MATLAB**, Technical University of Lisbon Summer School, School of Economics and Management (ISEG), Lisbon, Portugal – 15 hours (2011).

**Dendroecology: applying tree-ring methods to understand forest ecological processes**, by Dr. Paolo Cherubini, Swiss Federal Institute for Forest, Snow and Landscape Research, School of Agriculture, Lisbon, Portugal – 3.5 hours (2010).

**Summer School: Understanding Global Environmental Change: Processes, Compartments and Interactions**, Netherlands Research School for the Socio-Economic and Natural Sciences of the Environment (SENSE), Hulshorst, Netherlands – 6 days (2007).

**Geographically Weighted Regression (GWR) 3.0**, Department of Forestry, School of Agriculture, Lisbon, Portugal – 2 days (2007).

**Methods for Conceiving and Developing Project Proposals**, Sindicato dos Quadros Técnicos do Estado, Lisbon, Portugal – 30 hours (2003).

**Presentation Techniques**, Sindicato dos Quadros Técnicos do Estado, Lisbon, Portugal – 24 hours (2002).

**Introduction to IDL Training Course**, Research Systems, London, U.K. – 3 days (2002).

**Environmental Management and Legislation**, Nova Etapa, Lisbon, Portugal – 60 hours (2001).

**Italian Language Course**, Knowledge Management and Training Unit of the Joint Research Centre (JRC) of the European Commission, Ispra, Italy – 30 hours (2001).

**Introduction to ArcView GIS**, ESRI Portugal, Lisbon, Portugal – 3 days (2000).

## **CONSULTING EXPERIENCE**

Remote sensing and GIS expert, **Geosciences Department, University of Évora, Portugal**. Land cover change mapping in salt marshes and shore erosion rate estimation in the coast of Alentejo, Portugal, derived from aerial photographs (September 2003 – April 2006).

Remote sensing and GIS expert, **SIQuant, Lisbon, Portugal**. Land cover map derived for the territory of Portugal from Landsat 5 TM imagery. The map was ordered by the Portuguese Paper Industry Association (CELPA) and used for stratification of a national forest inventory (May – August 2005).

Forester, **WS Atkins Portugal, Lisbon, Portugal**. Participation in six Environmental Impact Assessment (EIA) processes; co-responsible for the ecology component – impacts on fauna and flora (July 2001 – September 2004).

## **LANGUAGES**

**Portuguese:** mother tongue.

**English:** good level of reading, writing, speaking.

## **ADMINISTRATION**

Organization of the CEF/CEABN (Centro de Estudos Florestais/Centro de Ecologia Aplicada Prof. Baeta Neves) seminars: <http://www.isa.utl.pt/ceabn/category/1/43/seminarios-ceabn-departamento-engenharia-florestal/>

## **OUTREACH ACTIVITIES**

Guided visits of the university campus for school groups from primary and nursery schools located near by the university (2009-2010 and 2010-2011 school years).

## **PUBLICATIONS**

### **Thesis:**

**2. Silva, J. M. N.** (2004). *Mapping Burned Areas in Tropical, Temperate and Boreal Regions Using Remote Sensing Data from SPOT 4 – VEGETATION*. Ph.D. thesis in Forestry. School of Agriculture, Technical University of Lisbon, Portugal.

**1. Silva, J. M. N.** (1999). *Application of Multivariate Methods for Burned Area Mapping Using Landsat 5 TM Data*. Master thesis in Applied Mathematics. School of Agriculture, Technical University of Lisbon, Portugal.

### **Books (editor):**

**2. Alves, A. M., J. S. Pereira e J. M. N. Silva,** Eds. (2007). *O Eucaliptal em Portugal: Impactes Ambientais e Investigação Científica*. ISAPress (ISBN 978-972-8669-25-6), Lisboa.

**1. Pereira, J. S., J. M. C. Pereira, F. C. Rego, J. M. N. Silva e T. P. Silva,** Eds. (2006). *Incêndios Florestais em Portugal: Caracterização, Impactes e Prevenção*. ISAPress (ISBN 972-8669-17-8), Lisboa.

#### Chapters in books:

5. Alves, A. M., J. S. Pereira e **J. M. N. Silva** (2007). A introdução e a expansão do eucalipto em Portugal. *In: O Eucalipto em Portugal: Impactes Ambientais e Investigação Científica*, A. M. Alves, J. S. Pereira e **J. M. N. Silva** (eds.), ISAPress, Lisboa.
4. **Silva, J. M. N.**, H. Feith e J. M. C. Pereira (2007). Exploração e silvicultura pós-fogo em eucaliptais. *In: O Eucalipto em Portugal: Impactes Ambientais e Investigação Científica*, A. M. Alves, J. S. Pereira e **J. M. N. Silva** (eds.), ISAPress, Lisboa.
3. Pereira, J. M. C., J. M. B. Carreiras, **J. M. N. Silva** e Maria J. Vasconcelos (2006). Alguns conceitos básicos sobre os fogos rurais em Portugal. *In: Incêndios Florestais em Portugal: Caracterização, Impactes e Prevenção*, Pereira, J. S., J. M. C. Pereira, F. C. Rego, **J. M. N. Silva** e T. P. Silva (eds.), ISAPress, Lisboa: pp 133 – 161.
2. Arino, O., I. Piccolini, E. Kasischke, F. Siegert, E. Chuvieco, P. Martin, Z. Li, R. H. Fraser, H. Eva, D. Stroppiana, J. M. C. Pereira, **J. M. N. Silva**, D. Roy and P. M. Barbosa (2001). Methods of Mapping Burned Surfaces in Vegetation Fires. *In: Global and Regional Vegetation Fire Monitoring from Space: Planning a Coordinated International Effort*, F. Ahern, J. Goldammer and C. Justice (eds.), SPB Academic Publishing, The Hague, Netherlands: pp 227 - 255.
1. Pereira, J. M. C., A .C. L. Sá, A. M. O. Sousa, **J. M. N. Silva**, T. N. Santos and J. M. B. Carreiras (1999). Spectral characterisation and discrimination of burnt areas. *In: Remote Sensing of Large Wildfires in the European Mediterranean Basin*, E. Chuvieco (ed.), Ecological Studies Series, Springer-Verlag, Berlin: pp 123 - 138.

#### Papers in international scientific periodicals with referees:

13. **Silva, J. M. N.**, J. M. B. Carreiras, I. Rosa and J. M. C. Pereira (2011). Greenhouse gas emissions from shifting cultivation in the tropics, including uncertainty and sensitivity analysis. *Journal of Geophysical Research*, 116, D20304, doi:10.1029/2011JD016056.
12. Temudo, M. P. and **J. M. N. Silva** (2011). Agriculture and forest cover changes in post-war Mozambique. *Journal of Land Use Science*, 6(4): 1-18, DOI:10.1080/1747423X.2011.595834. (Selected by Taylor & Francis and Routledge publishers to celebrate the International Year of Forests 2011 with free access to over 100 articles which raise awareness on sustainable management, conservation and sustainable development of all types of forests: <http://www.tandf.co.uk/journals/access/YearofForests.pdf>).
11. Le Page, Y., D. Oom, **J. M. N. Silva**, P. Jönsson and J. M. C. Pereira (2010). Seasonality of vegetation fires as modified by human action: observing the deviation from eco-climatic fire regimes. *Global Ecology and Biogeography*, 19(4): 575-588.

10. Sá, C. L., J. M. C. Pereira and **J. M. N. Silva** (2005). Estimation of combustion completeness based on fire-induced spectral reflectance changes in a *dambo* grassland (Western Province, Zambia). *International Journal of Remote Sensing*, 26(19): 4185-4195.
9. **Silva, J. M. N.**, A. C. L. Sá and J. M. C. Pereira (2005). Comparison of burned area estimates derived from SPOT-VEGETATION and Landsat ETM+ data in Africa: influence of spatial pattern and vegetation type. *Remote Sensing of Environment*, 96: 188-201.
8. Pereira, J. M. C., B. Mota, J. L. Privette, K. K. Caylor, **J. M. N. Silva**, A. C. L. Sá and W. Ni-Meister (2004). A simulation analysis of the detectability of understory burns in *mionbo* woodlands. *Remote Sensing of Environment*, 93: 296-310.
7. **Silva, J. M. N.**, J. F. C. L. Cadima, J. M. C. Pereira and J.-M. Grégoire (2004). Assessing the feasibility of a global model for multitemporal burned area mapping using SPOT-VEGETATION data. *International Journal of Remote Sensing*, 25(22): 4889-4913.
6. Tansey, K., J.-M. Grégoire, D. Stroppiana, A. Sousa, **J. Silva**, J. Pereira, L. Boschetti, M. Maggi, P. Brivio, R. Fraser, S. Flasse, D. Ershov, E. Binaghi, D. Graetz, and P. Peduzzi (2004). Vegetation burning in the year 2000: Global burned area estimates from SPOT VEGETATION data. *Journal of Geophysical Research*, 109, D14S03, DOI:10.1029/2003JD003598.
5. Tansey, K., J.-M. Grégoire, E. Binaghi, L. Boschetti, A. Brivio, D. Ershov, S. Flasse, R. Fraser, D. Graetz, M. Maggi, P. Peduzzi, J. Pereira, **J. Silva**, A. Sousa and D. Stroppiana (2004). A global inventory of burned areas at 1 km resolution for the year 2000 derived from SPOT VEGETATION data. *Climatic Change*, 67(2): 345-377.
4. Grégoire, J.-M., K. Tansey and **J. M. N. Silva** (2003). The GBA2000 initiative: Developing a global burned area database from SPOT-VEGETATION imagery. *International Journal of Remote Sensing*, 24(6): 1369-1376.
3. Sá, A. C. L., J. M. C. Pereira, M. J. P. Vasconcelos, **J. M. N. Silva**, N. Ribeiro and A. Awasse (2003). Assessing the feasibility of sub-pixel burned area mapping in Miombo woodlands of Northern Mozambique using MODIS imagery. *International Journal of Remote Sensing*, 24(8): 1783-1796.
2. **Silva, J. M. N.**, J. M. C. Pereira, A. I. Cabral, A. C. L. Sá, M. J. P. Vasconcelos, B. Mota and J.-M. Grégoire (2003). An estimate of the area burned in southern Africa during the 2000 dry season using SPOT-VEGETATION satellite data. *Journal of Geophysical Research*, 108, D13, 8498, doi:10.1029/2002JD002320.
1. Sousa, A. M. O., J. M. C. Pereira and **J. M. N. Silva** (2003). Evaluating the performance of multitemporal image compositing algorithms for burned area analysis. *International Journal of Remote Sensing*, 24(6): 1219-1236.

#### Papers in conference proceedings:

**11. Silva, J. M. N.**, J. M. B. Carreiras, I. Rosa and J. M. C. Pereira (2011). Greenhouse gas emissions from shifting cultivation in the tropics, including uncertainty and sensitivity analysis. *In: General Assembly of the European Geosciences Union, Vienna, Austria, April 3<sup>rd</sup> – 8<sup>th</sup> 2011.*

**10.** Cerasoli, S., F. Silva, N. Carvalhais, **J. Silva**, A. Sá, J. M. C. Pereira and J. S. Pereira (2011). Spectral measurements and ecosystem carbon cycle: an example of integration into ecosystem C flux modeling and potential in eco-physiological interpretations of spectral signals. *In: Workshop COST actions 903 (Spectral sampling tools for vegetation Biophysical parameters and Flux measurements in Europe) and ABBA (Advancing the integrated monitoring of trace gas exchange between biosphere and atmosphere), Hyytiälä, Finland, January 18<sup>th</sup> – 20<sup>th</sup> 2011.*

**9. Silva, J. M. N.**, M. P. Temudo, M. J. P. Vasconcelos and D. Oom (2009). Shifting cultivation and forest cover change in the tropics: the case of Niassa, Mozambique. *In: 33<sup>rd</sup> International Symposium on Remote Sensing of Environment, Stresa, Italy, May 4<sup>th</sup> – 8<sup>th</sup> 2009.*

**8.** Tansey, K., J.-M. Grégoire, J.M.C. Pereira, P. Defourny, R. Leigh, A. Barros, J.-F. Pekel, , **J. M. Silva**, E. van Bogaert, E. Bartholomé and S. Bontemps (2007). A global, multi-year (2000-2007), validated burnt area product (L3JRC) derived from daily SPOT VEGETATION data. *In: Towards an Operational Use of Remote Sensing in Forest Fire Management, Proceedings of the 6<sup>th</sup> International Workshop of the EARSeL Special Interest Group on Forest Fires, Thessaloniki, Greece, September 27<sup>th</sup> – 29<sup>th</sup> 2007.* I. Z. Gitas and C. Carmona-Moreno (eds.), European Association of Remote Sensing Laboratories (EARSeL).

**7.** Tansey, K., J.-M. Grégoire, J.M.C. Pereira, P. Defourny, R. Leigh, J.-F. Pekel, A. Barros, **J. Silva**, E. van Bogaert, E. Bartholomé and S. Bontemps (2007). L3JRC - A global, multi-year (2000-2007) burnt area product (1 km resolution and daily time steps). *In: Remote Sensing and Photogrammetry Society Annual Conference, Newcastle upon Tyne, UK, September 11<sup>th</sup> – 14<sup>th</sup> 2007.*

**6. Silva, J. M. N.** and J. M. C. Pereira (2006). Burned area mapping in Africa with SPOT-VEGETATION imagery: accuracy assessment with Landsat ETM+ data, influence of spatial pattern and vegetation type. *In: Global Developments in Environmental Earth Observation from Space, 25<sup>th</sup> EARSeL Symposium, Porto, Portugal, June 6<sup>th</sup> – 11<sup>th</sup> 2005,* A. Marçal (ed.), Millpress, Rotterdam: pp 367 – 376.

**5. Silva, J. M. N.**, A. M. O. Sousa, J. M. C. Pereira, K. Tansey and J.-M. Grégoire (2002). A contribution for a global burned area map. *In: Forest Fire Research & Wildland Fire Safety, Proceedings of the IV International Conference on Forest Fire Research, Luso, Portugal, November 18<sup>th</sup> – 23<sup>rd</sup> 2002,* D. X. Viegas (ed.), Millpress, Rotterdam.

**4. Silva, J. M. N.,** J. Cadima and J. M. C. Pereira (2001). Aplicação de técnicas de estatística multivariada à cartografia de áreas ardidas com imagens do satélite Landsat 5 TM. *In: A Estatística em Movimento*, Actas do VIII Congresso Anual da Sociedade Portuguesa de Estatística, Peniche, Portugal, October 4<sup>th</sup> – 7<sup>th</sup> 2000, M. Neves, J. Cadima, M. Martins and F. Rosado (eds.): pp 401 – 407.

**3. Silva, J. M. N.,** P. Amaral, J. M. C. Pereira, P. Pina and F. Muge (2000). Segmentation and orientation analysis of fire scars in remotely sensing images. *In: Proceedings of RecPad'2000*, 11<sup>th</sup> Portuguese Conference on Pattern Recognition, Porto, Portugal, May 11<sup>th</sup> – 12<sup>th</sup> 2000, A. Campilho and A. Mendonça (eds.): pp 165 – 171.

**2. Stroppiana, D.,** M. Maggi, J. M. Pereira, D. Graetz, J.-M. Grégoire, **J. Silva,** A. Sá, P. Henry, V. Gond and E. Bartholomé (2000). Detection and mapping of burnt areas and active fires in tropical woodland ecosystems with the VEGETATION sensor: the SMOKO-FRACTAL case study over Northern Australia. *In: Proceedings of VEGETATION 2000: 2 Years of Operations to Prepare the Future*, Lake Maggiore, Italy, April 3<sup>rd</sup> – 6<sup>th</sup> 2000, Gilbert Saint (ed.): pp 335 – 345.

**1. Silva, J. M. N.** and J. M. C. Pereira (1998). Evaluation of the performance of various Landsat 5 TM spectral indices to map burned areas. *In: Proceedings of the III International Conference on Forest Fire Research*, Luso, Portugal, November 16<sup>th</sup> – 20<sup>th</sup> 1998, D. X. Viegas (ed.): pp 2703 – 2710.

#### **Papers in national scientific periodicals with referees:**

**2. Silva, J. M. N.** e J. M. C. Pereira (1999). Detecção e cartografia de áreas ardidas baseada em índices espectrais Landsat 5 TM. *Silva Lusitana*, 7(1): 23 - 37.

**1. Sousa, A. M. O., J. M. N. Silva** e J. M. C. Pereira (1997). Cartografia de áreas ardidas em Portugal com imagens Landsat 5 TM. *Revista Florestal*, 10(1): 19 - 26.