

# Teresa Afonso do Paço

## **1. ACADEMIC DEGREES**

PhD, Instituto Superior de Agronomia, Technical University of Lisbon (ISA/UTL) – 2004

Doctoral preparation: 4 disciplines, Master Irrigation Eng. Agric. Resources, ISA/UTL, 1997

Tropical Agronomy, ISA/UTL, 1992

## Agronomy graduation, ISA/UTL, 1991



## 2. PRESENT SITUATION

Since July 2015 Instituto Superior de Agronomia, University of Lisbon, Portugal

## Assistant Professor, Water Resources

LEAF – Linking Landscape, Environment, Agriculture and Food

Research Group II - Soil, Water and Waste Nexus

### 3. PUBLICATIONS

## Papers in international scientific periodicals with referees (ISI)

Pôças I, Paço TA, Paredes P, Cunha M, Pereira LS (2015). Estimation of actual crop coefficients using remotely sensed vegetation indices and soil water balance modelled data. *Remote Sensing* 7:2373-2400.

**Paço** TA, Pôcas I, Cunha M, Silvestre JC, Santos FL, Paredes P, Pereira LS (2014). Evapotranspiration and crop coefficients for a super intensive olive orchard. An application of SIMDualKc and METRIC models using ground and satellite observations. *Journal of Hydrology* 519:2067–2080.

Pôças I, Paço TA, Cunha M, Andrade JA, Silvestre JC, Sousa A, Santos FL, Pereira LS, Allen RG (2014). Satellite based evapotranspiration of a super-intensive olive orchard: application of METRIC algorithm. Special Issue Irrigated agriculture: water resources management for a sustainable environment in Biosystems Engineering. *Biosystems Engineering* 1:13.

Siqueira JM, Paço TA, Silvestre JC, Santos FL, Falcão AO, Pereira LS (2014). Generating Fuzzy Rules by learning from olive tree transpiration measurement - an algorithm to automatize Granier sap flow data analysis. *Computers and Electronics in Agriculture* 101:1-10 (doi: 10.1016/j.compag.2013.11.013).

Zhang B, Liu Y, Xu D, Zhao N, Lei B, Rosa RD, Paredes P, **Paço TA**, Pereira LS (2013). The dual crop coefficient approach to estimate and partitioning evapotranspiration of the winter wheat - summer maize crop sequence in North China Plain. *Irrigation Science* 31:1303-1316 (doi: 10.1007/s00271-013-0405-1).

**Paço** TA, Ferreira MI, Pacheco CA (2013). Scheduling peach orchard irrigation in water stress conditions: use of relative transpiration and predawn leaf water potential. *Fruits* 68:147-158 (doi: 10.1051/fruits/2013061).

Pinto CA, David JS, Cochard H, Caldeira MC, Henriques MO, Quilhó T, **Paço TA**, Pereira JS, David TS (2012). Drought-induced embolism in current-year shoots of two Mediterranean evergreen oaks. *Forest Ecology and Management* 285:1–10 (doi: 10.1016/j.foreco.2012.08.005).

**Paço** TA, Ferreira MI, Rosa R, Paredes P, Rodrigues G, Conceição N, Pacheco C, Pereira LS (2012). The dual crop coefficient approach using a density factor to simulate the evapotranspiration of a peach orchard: SIMDualKc model vs. eddy covariance measurements. *Irrigation Science*, 30:115-126 (doi: 10.1007/s00271-011-0267-3).

**Paço** TA, David TS, Henriques MO, Pereira JS, Valente F, Banza J, Pereira FL, Pinto C, David JS (2009). Evapotranspiration from a Mediterranean evergreen oak savannah: the role of trees and pasture. *Journal of Hydrology*, 369: 98-106 (doi:10.1016/j.jhydrol.2009.02.011).

González-Altozano P, Pavel EW, Oncins JA, Doltra J, Cohen M, **Paço** TA, Massai R, Castel JR (2008). Comparative assessment of five methods of measuring sap flow in peach trees. *Agricultural Water Management*, 95: 503-515 (doi:10.1016/j.agwat.2007.11.008).

Pereira JS, Mateus JA, Aires LM, Pita G, Pio C, David JS, Andrade V, Banza J, David TS, **Paço** TA, Rodrigues A (2007). Net ecosystem carbon exchange in three contrasting Mediterranean ecosystems – the effect of drought. *Biogeosciences*, 4: 791-802 (doi:10.5194/bg-4-791-2007).

**Paço** TA, Ferreira MI, Conceição N (2006). Peach orchard evapotranspiration in a sandy soil: comparison between eddy covariance measurements and estimates by the FAO 56 approach. *Agricultural Water Management* 85 (3): 305-313 (doi:10.1016/j.agwat.2006.05.014).



### Papers in Conference Proceedings (ISI)

Andrade JA, Santos FL, Correia M, **Paço** TA (2014). Effects of Irrigation and Tree Spacing on Soil and Air Temperature Profiles of Olive Orchards. *Acta Hort.* (ISHS) 1057:443-450.

Mota MM, Nogueira AM, Guimarães A, Gonzalez LF, **Paço** TA, Correia MM, Coelho R, Vaz M, Santos FL, Alegre AH, Vasconcelos P, Ferreira-Dias S (2014). Impact of Irrigation in Production and Oil Properties in Intensive and Hedgerow Olive Groves. *Acta Hort.* (ISHS) 1038: 553-558.

**Paço** TA, Malheiro AC, Conceição NS, Fernandes-Silva AA, Silvestre JC, Ferreira MI (2011). Vineyard evapotranspiration measurement in non-flat terrain conditions by the eddy covariance technique – Douro Wine Region, Portugal *Acta Hort.* (ISHS) 889: 181-188.

Malheiro AC, Gonçalves IN, Fernandes-Silva AA, Silvestre JC, Conceição NS, **Paço** TA, Ferreira MI (2011). Relationships between Relative Transpiration of Grapevines and Plant and Soil Water Status in Portugal's Douro Wine Region. *Acta Hort.* (ISHS) 922: 261-267.

**Paço** TA, Rosa RD, Paredes P, Rodrigues GC, Conceição N, Ferreira MI, Pereira LS (2011). The dual crop coefficient approach: testing the SIMDualKc model with peach orchard evapotranspiration eddy covariance measurements. *Acta Hort.* (ISHS) 889:181-188.

Conceição, N., **Paço**, T.A., Silva, A.L., Ferreira, M.I. (2008). Crop coefficients for a pear orchard (*Pyrus communis* L.) obtained using eddy covariance. *Acta Hort.* (ISHS) 792:187-192.

Silva RM, **Paço** TA, Ferreira MI, Oliveira M (2008). Transpiration of a kiwifruit orchard estimated using the Granier sap flow method calibrated under field conditions. *Acta Hort.* (ISHS) 792:593-600.

**Paço** TA, Conceição N, Ferreira MI (2004). Measurements and estimates of peach orchard evapotranspiration in Mediterranean conditions. *Acta Hort.* (ISHS), 664:505-512.

Ferreira MI, **Paço** TA, Silvestre J (2004). Combining techniques to study evapotranspiration in woody crops: application to small areas – two case studies. *Acta Hort.* (ISHS), 664:225-232.

Isbérie C, Cabibel B, Valancogne C, **Paço** TA (2004). Using information from sap flow measurements to improve soil adaptability to drip irrigation in orchards. *Acta Hort.* (ISHS), 664: 333-340.

Garcia A, André RGB, Ferreira MI, do **Paço** T (2000). Diurnal and seasonal variations of CWSI and non-water-stressed baseline with nectarine trees. *Acta Hort.* (ISHS), 537: 415-421.

Massai R, Remorini D, Ferreira MI, **Paço** TA (2000). Sap flow in peach trees during water stress and recovery in two environmental conditions. *Acta Hort.* (ISHS), 537: 351-358.

### Thesis

**Paço** MTGA (2004). Modelação da evapotranspiração em cobertos descontínuos - Programação da rega em pomar de pessegueiro. Ph D thesis, Technical University of Lisbon, Instituto Superior de Agronomia, Lisbon, 227 p.

### Book chapters

Paredes P, **Paço** TA, Rosa RG, Pôças I, Neves M, Pereira LS (2015). In: Avaliação do uso da água em regadio: aplicação do modelo SIMDualKc a cevada, milho e olival. *Predictabilidade Sazonal de Secas. Avaliação ao nível regional e agrícola*. Ed. C Pires, LS Pereira. ISAPress, Lisboa, p. 245-278.

Cunha JE, Rufino IA, Valente F, Silva BB, **Paço** TA (2011). Estimativa da evapotranspiração através de sensoriamento remoto. In: *Recursos hídricos para a convivência com o Semiárido: abordagens sobre o semiárido por pesquisadores no Brasil, Portugal, Cabo Verde, Estados Unidos e Argentina*. Ed. CO Galvão, JA Cirilo, JSP Cabral, M Medeiros, ABRH, Porto Alegre, p. 235-263.

De Melo-Abreu JP, **Paço** TA, Ribeiro AC, Barba NG, Cordeiro AM, Neves A, Abreu I, Oliveira H, Oliveira C, Mexia A (2011). Impactos das alterações ambientais previstas na agricultura portuguesa. In: *Engenharia dos Biossistemas. Cem temas de investigação no centenário do ISA*. Ed. LS Pereira, A Varennes, C. Oliveira, S. Ferreira-Dias. Ed. Colibri e CEER, p. 3-6.

Ferreira MI, David T, Silvestre J, **Paço** T, Silva R, Conceição N (2011). Uso da água e coeficientes culturais e de stress hídrico em floresta, pomares e vinha. In: *Engenharia dos Biossistemas. Cem temas de investigação no centenário do ISA*. Ed. LS Pereira, A Varennes, C.Oliveira, S. Ferreira-Dias. Ed. Colibri e CEER, p. 73-76.

**Paço** TA, Santos FL, Siqueira J (2011). Modelação das necessidades hídricas de oliveiras regados utilizando variáveis e parâmetros biofísicos e detecção remota. In: *Engenharia dos Biossistemas. Cem temas de investigação no centenário do ISA*. Ed. LS Pereira, A Varennes, C.Oliveira, S. Ferreira-Dias. Ed. Colibri e CEER, p. 77-80.

**Paço** TA, Ferreira MI, Conceição N (2011). Medição e modelação empírica da evapotranspiração em pomar de pêssego. In: *Engenharia dos Biossistemas. Cem temas de investigação no centenário do ISA*. Ed. LS Pereira, A Varennes, C.Oliveira, S. Ferreira-Dias. Ed. Colibri e CEER, p. 89-92.

**Paço** TA, Fradinho MJ (2010). The role of extensive grazing systems in southern Europe horse production. In: *Pastures: Dynamics, Economics and Management*. Ed. Natália T. Procházka. Nova Science Publishers, Inc., New York, USA, p. 131-150.

Ferreira MI, **Paço** TA, Silvestre J, Silva RM (2008). Evapotranspiration estimates and water stress indicators for irrigation scheduling in woody plants. In: *Agricultural Water Management Research Trends*. Ed. Magnus L. Sorensen. Nova Science Publishers, Inc., New York, USA. ([https://www.novapublishers.com/catalog/product\\_info.php?products\\_id=6658](https://www.novapublishers.com/catalog/product_info.php?products_id=6658))

Abreu JM, **Paço** MTA, Acamovic T, Murray I (1992). NIR calibration for nutritional value of a diverse set of Portuguese forage crops. In: *Making Light Work - Advances in Near Infrared Spectroscopy*. Ed. by I. Murray and I. A. Cowe. VCH Publishers, New York, USA, p. 309-313.

#### Publications in Conference Proceedings with referees

**Paço** TA, Cameira MR, Caldeira MC, Branquinho C, Carvalho R, Valente F, Brandão C, Adriana A, Miranda MCM, Abreu F (2016). Irrigation requirements of native plants in Mediterranean green roofs. *41st IAHS World Congress on Housing, Sustainability and Innovation for the Future*, 13-16 Sept, Albufeira, Algarve, Portugal (submitted).

Valin MI, Marques C, Moreira E, Oliveira A, Siqueira J, **Paço** TA, Pedras C (2015). Monitorização da água no solo em culturas agrícolas com cobertura do solo plástica. *I Congresso Nacional das Escolas Superiores Agrárias*, 2-3 Dec, Bragança, Portugal.

Carvalho RC, Santos A, Alves F, Concostrina L, Luis L, **Paço** TA, Palha P, Milliken S, Branquinho C, Kotzen B. (2015). MedMossRoofs: Urban green covers with no irrigation requirements under Mediterranean climate. *European Conference on Nature based Solutions*, 17-19 Nov, Bonn, Germany.

**Paço** TA, Cameira MR, Branquinho C, Carvalho R, Luis L, Espírito-Santo D, Valente F, Brandão C, Soares AL, Anico A, Abreu F, Pereira LS (2014). Innovative green roofs for Southern Europe: biocrusts and native species with low water use. *40th IAHS World Congress on Housing, Sustainable Housing Construction*, 16-19 Dec, Funchal, CD-ROM.

David TS, Pinto CA, Nadezhina N, **Paço** TA, Pereira JS, David JS (2014). Water Use in Montado Ecosystems. *XII Portuguese-Spanish Symposium on Plant Water Relations. Water to Feed the World*, 30 Sept-3 Oct, Évora.

Pôças I, **Paço** TA, Cunha M, Silvestre J, Santos FL, Pereira LS (2013). Crop coefficients from METRIC and SIMDualKc models for discontinuous woody crops. A remote sensing application to a super intensive olive grove, in: Lamaddalena, N., Todorovic, M., Pereira, L.S. (Eds.), *1st CIGR Inter-Regional Conference on Land and Water Challenges. Water, environment and agriculture: challenges for sustainable development*. CIHEAM - IAMB, 10-14 September, Bari, Italy.

Santos FL, Correia MM, Valverde PC, Coelho RR, Vaz M, **Paço** TA. (2013). Water use, transpiration and crop coefficients for irrigated hedgerow olives grown in Southern Portugal. *VII Congresso Ibérico de Agroingeniería y Ciencias Hortícolas*. 26-29 Aug, Madrid.

Santos FL, Correia MM, Pôças I, Valverde PC, Coelho RR, Vaz M, **Paço** TA (2013). Estimation and mapping transpiration with basal and stress crop coefficients derived from remote sensing and ground-based plant water stress indicator. *VII Congresso Ibérico de Agroingeniería y Ciencias Hortícolas*. 26-29 Aug, Madrid.

Fradinho MJ, Santos AS, **Paço** TA (2013). Feeding behavior of horses in pasture. *50th Annual Meeting Sociedade Brasileira de Zootecnia, Technical Session: Equine Production*, 23-26 Jul, Campinas, Brazil.



Conceição N, **Paço** TA, Silva AL, Ferreira MI (2005). Determinação de coeficientes culturais em pomar de pêra-rocha na região do Oeste. *1º Congresso de Rega e Drenagem*, COTR, Beja, 5-7 December.

**Paço** TA, Ferreira MI (2004). Medição da evapotranspiração em cobertos descontínuos – necessidades de rega em pomar de pêssego. *7º Congresso da Água*, Laboratório Nacional de Engenharia Civil (LNEC), APRH, Lisbon, 8-12 March.

Ferreira MI, Silva RM, **Paço** TA (2004). Medição da evapotranspiração em cobertos descontínuos: montado de sobre na região de Lisboa. *7º Congresso da Água*, Laboratório Nacional de Engenharia Civil (LNEC), Lisbon, 8-12 March.

Silva RM, Ferreira MI, **Paço** TA, Veloso A, Oliveira M (2004). Determinação das necessidades de rega em kiwi na região do Entre Douro e Minho. *7º Congresso da Água*, Laboratório Nacional de Engenharia Civil (LNEC), Lisbon, 8-12 March.

Massai R, Remorini D, Ferreira MI, **Paço** TA (1999). Stress idrico e recupero nel pesco in diverse condizioni colturali. Atti del Convegno Nazionale: "l'agrometeorologia per il monitoraggio dei consumi idrici". Sassari, 3-4 November, 229-237.

#### Papers in national scientific periodicals with referees

Santos FL, Correia MM, Coelho RR, Sousa A, Paço TA, Pereira LS (2013). Efeitos da Rega e do Regime Hídrico em Olival Super Intensivo no Alentejo. *Revista da Sociedade de Ciências Agrárias de Portugal*, 36:206-219.

Ferreira MI, David T, Silvestre J, do **Paço** T, Silva R (2005). Coeficientes culturais e coeficientes de stress hídrico em cobertos lenhosos: resultados de 10 anos de experimentação em Portugal. Special number of *Revista da Sociedade de Ciências Agrárias de Portugal*, 3/4: 17-33.

Conceição N, **Paço** TA, Ferreira MI (2005). Medição e estimativa da evaporação do solo em condições de rega localizada. Special number of *Revista da Sociedade de Ciências Agrárias de Portugal*, 3/4: 77-92.

#### Other publications

**Paço** TA, Paredes P, Azevedo EB, Madruga JS, Pereira LS (2016). Ecohydrology of Graciosa semi-natural grasslands: water use and evapotranspiration partition. *European Geosciences Union General Assembly 2016*, Session HS10.4 – General Ecohydrology, 17-22 Abr, Vienna (accepted).

Brandão C, **Paço** TA (2015). Coberturas verdes no instituto superior de agronomia - paisagens urbanas alternativas para o uso sustentável da água em clima mediterrânico. *Boletim da SCAP, Sociedade de Ciências Agrárias de Portugal*, nº 6, Dec 2015.

Siqueira JM, Silva JM, **Paço** TA (2015). Smart Orchard Irrigation System. *XXX Conference on Design of Circuits and Integrated Systems*, 25-27 Nov, Estoril, Portugal.

Cunha J, **Paço** TA, Silva FC, Pereira JS, David JS, Rufino I, Galvão C, Valente F (2015). Evaluation of sensible heat flux from remote sense and eddy correlation data for two Portuguese cork-oak forests. *Geophysical Research Abstracts*, Vol. 17, EGU2015, EGU General Assembly, Viena.

Santos F, Correia MM, Coelho R, Vaz M, **Paço** T, Sousa A (2014). Predicted and Seasonal Dynamics of Hedgerow Olive Orchard Water use in Response to Applied Water. Proc. *3rd International Conference on Ecohydrology, Soil and Climate Change*, EcoHCC'14 - Abstracts

Book, 9-12 Set. Polytechnic Institute of Tomar, Natural Hazards Research Center, NHRC.ipt, Tomar, Portugal (abstract).

Valverde P, Correia M, **Paço TA**, Santos FL, Coelho R, Vaz M, Sousa A (2014). Predicted and seasonal dynamics of intensive and hedgerow olive orchard water use in response to applied water, environment and drip emitter layout. *AgEng 2014 – International Conference of Agricultural Engineering*, 6-10 Jul, Zurich (abstract).

Pôças I, Nogueira A, **Paço TA**, Sousa A, Valente F, Andrade JA, Santos FL, Pereira LS, Allen RG (2013). METRIC model for the estimation and mapping of evapotranspiration in a super intensive olive orchard in Southern Portugal. *Geophysical Research Abstracts* Vol. 15, EGU2013. European Geosciences Union General Assembly 2013, Session SSS10.9 - The use of remote sensing for estimating crop water requirements and soil water status, 7-12 Abr, Vienna.

Andrade JA, Santos FL, Correia M, **Paço TA** (2012). Effects of Irrigation and Tree Spacing on Soil and Air Temperature Profiles of Olive Orchards. VII<sup>th</sup> International Symposium on Olive Growing, 25-29 September, San Juan, Argentina (poster abstract).

Cameira MR, Pereira AC, **Paço TA** (2012). Modelação e avaliação do risco ambiental da fertirrigação para a sustentabilidade do olival intensivo. *V Congresso Ibérico da Ciência do Solo*, 6-10 Sep, Angra do Heroísmo, Azores, PT (abstract).

Santos FL, Coelho RR, Vaz M, Andrade JA, Correia MM, **Paço TA**, Pereira LS (2012). Efeitos da Rega e do Regime Hídrico em Olival Super Intensivo no Alentejo. *V Congresso Ibérico da Ciência do Solo*, 6-10 Sep, Angra do Heroísmo, Azores, PT (abstract).

Nogueira AM, **Paço TA**, Silvestre JC, Mota M, Gonzalez LF, Santos FL, Pereira LS (2012). Pegada Hídrica de um olival super-intensivo sob clima mediterrânico, utilizando medições de campo e detecção remota. VI Congresso Nacional de Olivicultura, 15-17 Nov, Mirandela, PT (poster abstract).

Coelho R, Vaz M, Santos FL, Sousa A, Rato AE, Shahidian S, **Paço TA**, Mota M, Nogueira AM (2012). Resposta do olival intensivo e super-intensivo a dois regimes de rega: parâmetros fisiológicos, produção e qualidade. VI Congresso Nacional de Olivicultura, 15-17 Nov, Mirandela, PT (poster abstract).

Nogueira AM, **Paço TA**, Silvestre JC, Gonzalez LF, Santos FL, Pereira LS (2012). Water footprint of a super-intensive olive grove under Mediterranean climate using ground-based evapotranspiration measurements and remote sensing. *Geophysical Research Abstracts*, Vol. 14, EGU2012-11301(abstract).

Pereira JS, David JS, **Paço TA**, David TS, Mateus JA, Pita PG, Banza J (2008). Effects of drought on ecosystem carbon and water fluxes in an evergreen Mediterranean oak woodland. *Geophysical Research Abstracts*, vol. 10, EGU2008-A-11438, (abstract).

David TS, **Paço TA**, Henriques MO, Pereira JS, Valente F, Kurz-Besson C, Pinto C, David JS (2007). Evapotranspiração num montado de Quercus ilex: as árvores e a pastagem. Reunião do Grupo de Trabalho de Ecologia, Ecofisiologia e Solos Florestais da SECF (Sociedad Española de Ciencias Forestales) *Suelos forestales: nuevas perspectivas en las relaciones suelo-árbol*, 22-23 Oct 2007, Salamanca, Spain (poster abstract).

Conceição N, **Paço TA**, Ferreira MI (2007). Coeficientes de cultivo para la variedad de pera Rocha. *Fruticultura Profesional*, Especial Peral III, 168, 41- 46.

Pereira JS, Mateus JA, Aires L, **Paço TA**, Pita G, Pio C, Banza J, Andrade V, Rodrigues A, David T S, Cerasoli S, David JS (2006). Effects of altered seasonality and low rainfall in net ecosystem exchange of carbon in three contrasting Mediterranean ecosystems. *Open Science Conference on the GHG Cycle in the Northern Hemisphere*. 14-18 Nov, Sissi-Lassithi, Crete (abstract).

**Paço TA** (2006). Necessidades hídricas em pomar de pessegueiro. In: *Guias de Rega*. COTR – Centro Operativo e de Tecnologia de Regadio, Beja.

**Paço TA** (2005). Alimentação de equinos em pastoreio. In: Proceedings of *Workshop em Nutrição e Alimentação de Equinos*, 9 Dec, Exponor, Oporto, 24-32.

Silva R, **Paço TA**, David TS, Rodrigues ML, Silva A, Ferreira MI (2005). Water relations in Quercus suber – some results. *IX Congresso Luso-Español de Fisiología Vegetal*, 18-21 Sep, Évora (poster abstract).

**Paço** TA, Ferreira MI (2004). Medição da evapotranspiração em cobertos descontínuos – necessidades de rega em pomar de pessegueiro. *Rega e Drenagem*, Dec 2004, 41-48.

Silva RM, Ferreira MI, **Paço** TA, Veloso A, Oliveira M (2004). Determinação das necessidades de rega em kiwi na região do Entre Douro e Minho. *Rega e Drenagem*, Dec 2004, 34-40.

Isbérie C, Cabibel B, Valancogne C, **Paço** TA (2004). Using information from sap flow measurements to improve soil adaptability to drip irrigation in orchards. *New Ag International*, Jun 2004, 48-49.

Ferreira MI, David TS, Silvestre J, **Paço** TA, Nadezhina N, Thomsen A, Silva RM, Silva AL (2004). Sap flow measurements and their scaling up - Granier method. In: *Workshop Water Use of Woody Crops: techniques, issues, modelling and applications on water management*. 20-21 May, Ílhavo, Portugal, 6-7 (extended abstract).

Ferreira MI, **Paço** TA, Nadezhina N (2004). Water stress indicators. Use of sap flow measurements for stress diagnosis. In: *Workshop Water Use of Woody Crops: techniques, issues, modelling and applications on water management*. 20-21 May, Ílhavo, Portugal, 13-14 (extended abstract).

Ferreira MI, **Paço** TA (2004). Reference ET and crop coefficients: how good is this approach for woody stands? Use of stress coefficients. In: *Workshop Water Use of Woody Crops: techniques, issues, modelling and applications on water management*. 20-21 May, Portugal, 22-23 (extended abstract).

**Paço** TA, Ferreira MI, Conceição N (2004). Combination of transpiration & ET techniques – Application on irrigated peach orchards. In: *Workshop Water Use of Woody Crops: techniques, issues, modelling and applications on water management*. 20-21 2004, Ílhavo, Portugal, 32-33 (extended abstract).

Silva R, Ferreira MI, **Paço** TA, Veloso A, Oliveira A (2004). Combination of transpiration & ET techniques – Application on kiwi (Determinação das necessidades de rega em kiwi, na região de Entre-Douro e Minho). In: *Workshop Water Use of Woody Crops: techniques, issues, modelling and applications on water management*. 20-21 2004, Ílhavo, Portugal, 36 (abstract).

Ferreira MI, **Paço** TA, Cohen M, Oncins JA (1998). Should the radial distribution of sap flow density be considered on the calculation of total sap flow, when using Granier sensors? In: Morrison JL, Domingo F, Allen SJ, Eds, *Proceedings 4th International Workshop on Field Techniques for Environmental Physiology*. 31 Mar, Almeria, Spain (poster abstract).

#### 4. PARTICIPATION IN SCIENTIFIC RESEARCH PROJECTS

2016-2018

PTDC/ATPARP/5826/2014

**MedMossRoofs**: Urban green covers based on mosses with no irrigation requirements under Mediterranean climate – **coordinator of ISA's team**

2014-2017

PRODER 54326 4.1 Cooperação para Inovação

**OlivoReg**: Optimização da produção de azeitona e rendimento de extração do azeite 54326

2014

EXPL/ATP-ARP/0252/2013

**NativeScapeGR** - Green roofing with native species: alternative urban landscape areas to enhance water use and sustainability in Mediterranean conditions – **project coordinator**

2013 - 2014

EXPL/AGR-PRO/1559/2012

**AGRISAT\_XXI** - What remote sensing data can really tell about vegetation dynamics in agricultural crops. Looking ahead – **coordinator of ISA's team**

2011 – 2013

PTDC/AGR-PRO/111717/2009

**H2OLive3S** - Integration of in situ biophysical information on crop and land surface with remotely sensed observations to model olive water use and irrigation scheduling at local and regional scales ([www.isa.utl.pt/proj/H2OLive3s/](http://www.isa.utl.pt/proj/H2OLive3s/)) – **coordinator of ISA's team**

2010 – 2013

PTDC/AGR-AAM/104562/2008

**FUTUROLIVE** - Repercussions of climate change on yield and quality of olive oil

2010 – 2013

PTDC/AAC-AMB/100635/2008

**WUSSIAAME**- Water use, survival strategies and impact of agrochemicals on water resources in agricultural Mediterranean ecosystems

2007 – 2010	PTDC/AGR-AAM/69848/2006
Best management practices for deficit irrigation strategies in vineyards - water stress indicators and grape quality	
2006 – 2009	POCI/AGR/59152/2004
Mediterranean woody species of 'montados': surviving the drought	
2005 – 2008	GOCE – CT – 2003 - 505572
<b>CARBOEUROPE</b> – Assessment of the European terrestrial carbon balance	
2007 -2008	SO2/2.1/F28 SUDOE, INTERREG III B, SUDOE
<b>PRECIRIEG</b> - Réseau d'actions concertées en horticulture pour une conduite de l'irrigation précise et économique en eau en SUDOE	
2001 - 2004	EVK1-CT-2000-00079 WATERUSE, UE
<b>WATERUSE</b> – Evaluation of alternative techniques for determination of water budget components in water – limited, heterogeneous land-use systems	
2002 – 2004	AGRO 8-8.1 – Exp. Dev. & Dem.
Demonstration of sensors utilization and experimental processes to the determination of irrigation amounts and timing in actinideia	
1997 – 2000	FAIR 1-CT-95-0030, UE
Innovative biological indicators to improve the efficiency of water and nitrogen use and the fruit quality in tree crops	



## 5. RELEVANT PROFESSIONAL EXPERIENCE

February-July 2015	ISA, UL	Lisbon, PT
Researcher – post-doc fellowship FCT (SFRH/BPD/100718/2014)		
LEAF – Linking Landscape, Environment, Agriculture and Food, Research Group II - Soil, Water and Waste Nexus, <a href="http://www.isa.utl.pt/home/node/3305">www.isa.utl.pt/home/node/3305</a>		
January 2015	ISA, UL	Lisbon, PT
Invited Scientist ( <i>Incentivo</i> Program, FCT)		
LEAF – Linking Landscape, Environment, Agriculture and Food, Research Group II - Soil, Water and Waste Nexus		
July 2014 – December 2014	ISA, UL	Lisbon, PT
Invited Scientist (project <u>NativeScapeGR</u> )		
July 2009 – June 2014	ISA, UTL	Lisbon, PT
Researcher ( <i>Ciência 2008</i> Program, FCT)		
Biosystems Engineering		
Research Group: Water, Natural Resources and Climate		
Nov 2004 - June 2009	ISA, UTL	Lisbon, PT
Post-doctoral fellow at Forest Research Centre (CEF) with a fellowship supported by FCT.		
First 3-year period working plan: <i>Evapotranspiration in discontinuous canopied crops: i) applications in irrigated orchards and in Quercus suber 'montado', ii) dissemination and results transfer</i>		
Second 3-year period working plan: <i>Evapotranspiration and water use in agricultural and forest Mediterranean ecosystems</i>		
Jan 1997 - Nov 2004	ISA, UTL	Lisbon, PT
Research fellow at Agricultural Engineering Dep. (DER)		
Ph D student with a fellowship supported by FCT (Oct 1998 - Jan 2003)		
1999 - 2014		
<b>Teaching</b>		
- Instituto Superior de Agronomia, UTL: Physics, Irrigation and Drainage		
- Universidade do Algarve: Green roofs in the urban water cycle		
- Faculdade de Medicina Veterinária, UTL, post-graduation short training: Pastures		
- Universidade Nova de Lisboa – Faculdade de Ciências e Tecnologia: Ecological indicators		
- Escola Superior Agrária de Elvas: Pastures		
- Escola Superior Agrária de Beja: Data acquisition systems		

## 6. PEER-REVIEWING

- 2015: *Landscape and Urban Planning, Journal of Hydrology, Hydrological Processes*  
 2014: *Arid Land Research and Management, Water Science and Technology: Water Supply, Remote Sensing, Journal of Irrigation and Drainage Engineering*  
 2013: *Water Science and Technology: Water Supply, Journal of Irrigation and Drainage Engineering, Journal of Viticulture and Enology*  
 2012: *Journal of Experimental Botany*  
 2011: *Tree Physiology, Journal of Irrigation and Drainage Engineering, Journal of Experimental Botany*  
 2008: *Irrigation Science*  
 2007: *Journal of Irrigation and Drainage Engineering*  
 2004: *Journal of Experimental Botany*

## 7. COLLABORATION IN THE SUPERVISION OF ACADEMIC WORKS

PhD

2014 -

Retenção de Águas Pluviais e Melhoria do Conforto Térmico em Áreas Urbanas utilizando Coberturas Verdes. Instituto Superior de Agronomia, ULisboa, supervisor

2012 -

Sistema de controlo inferencial embebido em dispositivos sensoriais direcionado ao uso eficiente da água na agricultura. ISA, ULisboa, co-supervisor

MSc

2014-

Modelação da evapotranspiração de olival superintensivo utilizando o modelo SIMDualKc. ISA, ULisboa – supervisor

Monitorização do desenvolvimento do substrato vegetal de coberturas verdes mediante análise de imagem digital. ISA, ULisboa – supervisor

Avaliação do valor estético de plantas autóctones utilizadas em coberturas verdes. ISA, ULisboa – supervisor

Monitorização da evapotranspiração na cultura da vinha: aplicação do modelo SIMDualKc vs. Informação derivada de imagens de satélite. ISA, ULisboa – supervisor

2007

Balanço energético e coeficientes culturais em *Pyrus communis* cv. Rocha na região do Oeste. MSc thesis. ISA, UTL – co-supervisor

## 8. AWARDS

### Finalist Project

Oil&Water - Mixing olive oil and water - Call for Best Practices: Feeding Best Sustainable Development Practices on Food Security. *Feeding Knowledge Programme/EXPO Milano 2015* - Feeding the planet, Energy for life – coordination.

### Finalist Project

National Innovation Contest Novo Banco, 10<sup>a</sup> edition, 2014: BioCrust Roofs: desenvolvimento de tecnologias para a produção de coberturas verdes em condições mediterrânicas de escassez hídrica.

### Best Poster Award

European Geosciences Union General Assembly 2012, Session SSS11.3: Soil and Irrigation Sustainability Practices (co-author).

European Geosciences Union, 25 April, Vienna, Austria; CEIGRAM - Research Centre for the Management of Agricultural and Environmental Risks.

### APRH Award for 2004/2005

Section 'Basic and Nature Sciences' (for the Ph D thesis)

Award from *Associação Portuguesa dos Recursos Hídricos* – APRH, given every two years to research studies contributing in a significant way to the progress of technical and scientific knowledge and to the resolution of national problems, within the water resources domain.

## **9. ASSOCIATIVE ACTIVITIES**

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Vice-president - Associação Nacional de Coberturas Verdes (ANCV, <http://ancv.webnode.pt/>)

Secretary-General - REDISA CPLP - Segurança Alimentar e Desenvolvimento Sustentável

Secretary-General – Sociedade de Ciências Agrárias de Portugal

February 2016

