

Curriculum Vitae

Paulo Emanuel Talhadas Ferreira da Fonseca

Place and date of birth: Lisboa, 20/08/1960

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Academic Qualifications:

2003	Aggregation/ability in Geology	Universidade de Lisboa
1995	PhD in Geology (Geodynamics),	Universidade de Lisboa
1989	MSc (equivalent) in Geology,	Universidade de Lisboa
1985	Graduation in Geology,	Universidade de Lisboa
1983	BSc in Geology,	Universidade de Lisboa

Positions Held:

Invited Professor	Feb 1998 - Nov 2004	Universidade Aberta
Invited Professor	Oct 1996 - Sep 2005	Universidade da Madeira
Auxiliary Professor	Jun 1995 - present day	Fac. de Ciências, Univ. Lisboa
Assistant	Dec 1989 - Jun 1995	Fac. de Ciências, Univ. Lisboa
Probationary-Assistant	Feb 1987 - Dec 1989	Fac. de Ciências, Univ. Lisboa
Exploration Geologist	Feb 1986 - Feb 1987	EDM - Empresa Desenvolvimento Mineiro do Alentejo

Head of Laboratório de Geologia Experimental (LabGExp) – GeoFCUL

(<https://www.facebook.com/fcul.labgexp/> - <https://www.facebook.com/labgexp>)

Research Interests:

Structural Geology, Tectonics, Geodynamics - Ophiolites, Variscan Orogeny, Brittle and Ductile Deformation, Atlantic Island Geology (Madeira, Azores and Canárias), Oil and Gas Storage (LPG) and Reservoirs (Fluid Circulation), Shale oil and gas geology. CO₂ and Carbon sequestration. Environmental Geology and Groundwater Geology. Geoethics and Geological Heritage and Geoconservation. Geology education in formal and non-formal environments (adults and handicapped persons).

Some Research Projects:

“TESIS - Estudos Tectónicos e Sismotectónicos para Modelização da Estrutura Profunda da Crusta em Portugal”, JNICT, PMCT/C/CEN/102/90; 1990-1993.

“STRIDE - Iberarc, Tectónica e Sísmica Profunda das Estruturas do Arco Varisco Ibérico no Contexto da Cadeia Varisca Europeia”, JNICT, STRDA/P/CEN/433/92; 1993-1994.

“TECTIBER”, PRAXIS XXI, 1996-1999.

“MIZOMOR - Mineralizações em Metais Preciosos na Zona de Ossa-Morena (ESE-SE de Portugal)”, PBIC/C/CTA/2112/95; 1996-1998;

“Termocronologia em Modelação Tectonometamórfica” - Projecto de Cooperação Internacional Portugal (ICCTI) / Brasil (CAPES) – GeoFCUL/Centro de Pesquisas Geocronológicas do Instituto de Geociências da Universidade de S. Paulo (Brasil)1995-1998;

“STAMINA – Study of the Tectonic and Magmatic Interplay in the Azores” - PDCTM/PP/MAR/15255/99 1999-2001;

“MODELIB - Termocronologia e Modelação Tectonometamórfica na Cadeia Varisca Ibérica”; 2000-2004

“HIMOCATCH – Role of High Mountain Areas in Catchment Water Resources – Central Portugal - High Mountain Areas Hydrology”; 2004-2008

“Processos orogénicos em transpressão: Lás suturas variscas del Sudoeste da Ibéria” - BTE2003-05128, Ministerio de Ciencia y Tecnología, Secretaria de Estado de Política Científica y Tecnológica, Subdirección General de Proyectos de Investigación do Governo de Espanha; 2000-2012

“GROUNDURBAN: Urban groundwater and environmental management in the Northwest Portugal (POCI/CTE-GEX/59081/04). 2005-2008

“Cartografia da Ilha da Madeira – Madeira Island mapping project” – Governo Regional da Madeira, UMa, FCUL, 2004-2012.

Some Relevant Publications (last 5 years)

RAMALHO, R.; BRUM DA SILVEIRA, A.; **FONSECA, P.E.**; MADEIRA, J.; COSCA, M.; CACHÃO, M.; FONSECA, M.M. e PRADA, S. (2015) - The emergence of volcanic oceanic islands on a slow-moving plate: the example of Madeira Island, NE Atlantic, *G³ - Geochemistry, Geophysics, Geosystems*, 16(2), pp. 522-537, AGU Publications; doi:10.1002/2014GC005657.

SANTOS, T.B.; TASSINARI, C. e **FONSECA, P.E.** (2015) – Diachronic collision, slab break-off and long-term high thermal flux in the Brasileiro - Pan-African orogeny: Implications for the geodynamic evolution of the Mantiqueira Province. *Precambrian Research*, Vol 257 (2015), doi:10.1016/j.precamres.2014.12.018.

TEIXEIRA, J.; CHAMINÉ, H.I.; ESPINHA MARQUES, J.; PEREIRA, A.J.; CARVALHO, M.R.; **FONSECA, P.E.**; CARVALHO, J.M.; PÉREZ-ALBERTI, A. e ROCHA, F. (2015) - A comprehensive analysis of groundwater resources using GIS and multicriteria tools (Caldas da Cavaca, Central Portugal): environmental issues. *Environmental Earth Sciences*, 73(6): 2699–2715. [doi: 10.1007/s12665-014-3602-1]

SANTOS, T.B.; TASSINARI, C. e **FONSECA, P.E.** (2014) - Garnet-biotite diffusion mechanisms in complex high-grade orogenic belts: understanding and constraining petrological cooling, *Journal of South American Earth Sciences*, [Volume 56](#), pp. 128–138, doi: 10.1016/j.jsames.2014.09.003

MARQUES, J. E.; MARQUES, J. M.; CHAMINÉ, H. I.; CARREIRA, P.; **FONSECA, P. E.**; SANTOS, F. M.; MOURA, R.; SAMPER, J.; PISANI, B.; TEIXEIRA, J.; CARVALHO, J. M.; ROCHA, F. e BORGES, F. S. (2013) - Conceptualizing a mountain hydrogeologic system by using an integrated groundwater assessment (Serra da Estrela, Central Portugal): a review, *Geosciences Journal*, [Volume 17, Issue 3](#), pp. 371-386, doi: 10.1007/s12303-013-0019-x,

KHALIL, M. A.; SANTOS, F.; CACHÃO, M.; **FONSECA, P. E.** e MATA, J. (2013) – 2D and 3D resistivity tomography of Suímo garnet-bearing dyke (Lisbon Volcanic Complex, Portugal): a case study. *Journal of Geophysics and Engineering*, doi: org/10.1088/1742-2132/10/3/035013, WOS:000320243700021.

SANTOS, T. B.; TASSINARI, C.; MUNHÁ, J. e **FONSECA, P. E.** (2012) - ID-TIMS U-Pb geochronology and some notes on the geodynamic and geochemical evolution of the high grade rocks of central Ribeira Fold Belt (SE Brazil), *Comunicações Geológicas* (2012) 99, 2, 101-105 ISSN: 0873-948X; e-ISSN: 1647-581X

CALDERÓN, M.; FOSDICK, J.; WARREN, C.; MASSONNE, H.-J.; FANNING, C.M.; FADEL CURY, L.; SCHWANETHAL, J.; KELLEY, S.; **FONSECA, P.E.**; GALAZ, G.; GAYTÁN, D. e HERVÉ, F. (2012) – The low-grade Canal de las Montañas Shear Zone and its role on the tectonic emplacement of the Sarmiento Ophiolitic Complex and Late Cretaceous Patagonian Andes orogeny, Chile, *Tectonophysics*, Vol. 524-525, pp. 165-185. doi: 10.1016/j.tecto.2011.12.034, WOS:000301470900014.

MACHADO, G.; FRANČU, E.; VAVRDOVÁ, M.; FLORES, D.; **FONSECA, P. E.**; ROCHA, F.; GAMA PEREIRA, L.; GOMES, A.; FONSECA, M. M. e CHAMINÉ, H. (2011) – Stratigraphy and Palynology of the Devonian-Mississippian metasedimentary Albergaria-a-Velha Unit (Porto–Tomar shear zone, W Portugal). [Geological Quarterly](#), 55 (2), pp. 139-164. WOS:000295383600005.

SANTOS, T. B.; MUNHÁ, J.; TASSINARI, C.; **FONSECA, P. E.** e DIAS NETO, C. (2011) - Metamorphic P-T evolution of granulites in central Ribeira Fold Belt, SE Brazil, *Geosciences Journal*, 15 (1), pp. 27–51, doi 10.1007/s12303-011-0004-1, WOS:000289211200003.

SANTOS, T. B.; MUNHÁ, J.; TASSINARI, C. e **FONSECA, P. E.** (2011) -The link between partial melting, granitization and granulite development in central Ribeira Fold Belt, SE Brazil: new evidence from elemental and Sr-Nd isotopic geochemistry, *Journal of South American Earth Sciences*, 31-2/3, pp. 262-278. doi:10.1016/j.jsames.2011.01.004, WOS:000287427400008.

SANTOS, T. B.; MUNHÁ, J.; TASSINARI, C.; NORONHA, F.M.; GUEDES, A.; **FONSECA, P. E.**; DIAS NETO, C. e DÓRIA, A. (2011) – P-T-Fluid evolution and graphite deposition during retrograde metamorphism in Ribeira Fold Belt, SE Brazil: Oxygen fugacity, fluid inclusions and C-O-H isotopic evidence, *Journal of South American Earth Sciences*, 31-1, pp. 93-109. doi:10.1016/j.jsames.2010.02.002

BENTO DOS SANTOS, T.; MUNHA, J.; **FONSECA, P.E.** e TASSINARI, C.C. (2010) - Petrological cooling rates from central Ribeira Belt (SE Brazil): New breakthroughs and developments, *Geochimica et Cosmochimica Acta*, Vol. 74, Issue 12, Supplement 1, pp.A80-A80, WOS:000283941401342