

# CURRICULUM VITAE

**NAME:** Francisco Manuel Braz Fernandes

**PLACE AND DATE OF BIRTH:** Beira (Moçambique), 14/12/1951.

**NATIONALITY:** Portuguese.

**ID Card (Cartão de Cidadão):** 07162753 7ZZ9.



## TECHNICAL AND PROFESSIONAL ASSOCIATIONS AFFILIATION:

- Ordem dos Engenheiros (College of Metallurgical and Materials Engineering) n° 10595. Professional Cedula n° 14473.

Member of the Portuguese Materials Society.

## ACADEMIC DEGREES:

- July 1976 – Mechanical Engineering, 14 val. - I.S.T. / UTL, Lisbon.

- July 1982 - Diplôme d'Études Approfondies (D.E.A.) de Métallurgie Spéciale, classif. "Assez Bien" - I.N.S.T.N. (Saclay), University of Paris XI (Orsay).

- April 1985 - Thèse Doctorat I.N.P.L., (Nancy) (Spécialité Sciences et Génie des Matériaux), classif. "Très Honorable".

- October 1985 - Equivalence PhD degree in Materials Engineering, Universidade Nova de Lisboa.

- May 2008 – “Agregação” in Physical Metallurgy, Universidade Nova de Lisboa.

- October 2009 – Doctor Honoris Causa in Materials Science and Engineering by University of Galati (Universitatea Dunarea de Jos Galati), Romania.

## CURRENT PROFESSIONAL POSITION:

Associate Professor of Physical and Mechanical Metallurgy of Faculdade de Ciências e Tecnologia of Universidade Nova de Lisboa.

## LECTURING EXPERIENCE:

- Lecturing at graduation level:

Physical Chemistry,

Introduction to Materials Science,

Materials Testing and Analysis,

Thermal and Mechanical Treatments,

Metallurgical Technology.

- Post-graduation lecturing:

Heat Treatment of metal alloys,

X-Ray Diffraction,

Electron Microscopy,

Computational Simulation of Materials Processing.

- Supervision of MSc and PhD thesis:

MSc QUALIMAT and Materials Engineering,

PhD in Physical Metallurgy, Metallurgical Technology.

- Supervision of Post-Docs:

Composite materials,

Thin films,

Shape memory alloys.

## SCIENTIFIC INTERESTS:

- Processing of metal alloys (ferrous alloys; shape memory alloys).

- Phase transformations interactions (thermal / mechanical).

- Computational Simulation of Materials Processing.

- Structural characterization by X-Ray Diffraction.

- Microfabrication and nanostructuring (by severe plastic deformation).

## HOBBY:

Philately.

## POST-GRADUATION SUPERVISION

### MSc (last 5 years)

**MSc on Mechanical Engineering**, Luis Alberty (Eng.<sup>a</sup> Mecânica, DEMI). “Soldadura laser de ligas com memória de forma”. Supervision: Rosa Miranda (DEMI, FCT/UNL), F. M. Braz Fernandes. Defended at FCT/UNL, 10/11/2010.

**MSc on Dentistry**, Francisca Neves Sena Alçada Ribeiro (Faculdade de Medicina Dentária, UL), “XRD characterization of Profile System GT and ProFile GT Series X”. Supervision: Sancho Correia (FMD-UL) , F.M. Braz Fernandes, defended at FCT/UNL, July 2010.

**MSc on Dentistry**, Diana Cardoso Simão (Faculdade de Medicina Dentária, UL), CENIMAT, “Thermal characterization of System Profile GT\* and ProFile GT\* Series X endodontic new files”. Supervision: Sancho Correia (FMD-UL) , F.M. Braz Fernandes, defended at FMD/UL, July 2010.

**MSc on Dentistry**, Magno Dinis de Sousa Gomes (Faculdade de Medicina Dentária, UL), “Characterization of the mechanical behavior by rotation/flexion of ProSystem GT and Profile GT Series X endodontic files. *In vitro* study (MSc dissertation in Dentistry. Supervision: Sancho Correia (FMD-UL) , F.M. Braz Fernandes, defended at FMD/UL, July 2010.

**MSc on Mechanical Engineering**, Luis Manuel Alberty Vieira (Eng.<sup>a</sup> Mecânica, DEMI). “Laser welding of shape memory alloys”. Supervision: Rosa Miranda (DEMI), F. M. Braz Fernandes. Defended at FCT/UNL, 10/11/2010.

**MSc on Materials Engineering**, João Pedro Oliveira, “Correlation Between the Mechanical Cycling Behavior and Microstructure in Laser Welded Joints Using NiTi Shape Memory Alloys”. Supervision: F.M. Braz Fernandes, Rosa Miranda (DEMI). Defended at FCT/UNL, 30/07/2012.

**MSc on Materials Engineering**, Alain Pereira, “Severe plastic deformation by ECAP of shape memory alloys”,. Orientação: F.M. Braz Fernandes. . Supervision: F.M. Braz Fernandes. Defended at FCT/UNL, 14/05/2013.

**MSc on Naval Engineering**, Adriano Ernesto Loureiro Augusto (ASPOF EN-MEC), “Construction of a prototype of a system of submarine propulsion using shape memory alloys”. Defended at Escola Naval (Portuguese Navy Academy), Alfeite, 13/09/2013.

**MSc on Materials Engineering**, Joana Cruz, “Characterization of superelastic orthodontic wires”, Mestrado em Eng<sup>a</sup> de Materiais, Faculdade de Ciências e Tecnologia, UNL. Supervision: F.M. Braz Fernandes, Rafaella Magalhães (Dentist). Defended at FCT/UNL, 04/12/2013.

**MSc on Materials Engineering**, Ana Alves, “ Effect of heat treatment on thermal and mechanical properties of 3 endodontic files: MTwo, K3 e K3XF”. Supervision: F.M. Braz Fernandes, João Pedro Oliveira. Defended at FCT/UNL, 16/12/2015.

### PhD

**Co-supervision PhD thesis** Isabel Maria Figueiredo Ligeiro da Fonseca Santos Silva, “**Oxidation and hydrogenation of active coal, catalysed by molybdenum, cobalt and nickel**”, defended at FCT/UNL in 12/02/93. Supervision: Prof. Luís Sousa Lobo (Dep. de Química da FCT/UNL).

**Supervision of PhD thesis** "Effect of Flutuations of Chemical Composition on the Structural Transformations of Steels. Application to a Tool-Steel DIN X 38 CrMoV 5 1", Rui Jorge Cordeiro Silva, defended at FCT/UNL in 25/05/1999.

**Supervision of PhD thesis** “Thermomechanical treatments of Ni-Ti alloys. Structural characterization and optimization of shape memory properties”, Andersan dos Santos Paula. Defended at FCT/UNL, in 17/05/2006.

**Supervision of PhD thesis** “Ni rich Ni-Ti SMA. Thermal and thermomechanical treatment and micromemory effect”, Christian Mariani Lucas dos Santos, defended at IME - Instituto Militar de Engenharia (Rio de Janeiro, Brasil), in 29/11/2006 Co-supervision: Carlos Sérgio da Costa Viana (IME).

**Supervision of PhD thesis** “In situ X-Ray Diffraction Studies during Growth of Ni-Ti Shape Memory Alloy Films and their Complimentary ex situ Characterization”, Rui Miguel dos Santos Martins. Co-supervision: Norbert Schell (FZR, Dresden, Alemanha). Defended at FCT/UNL, 17/10/2008.

**Co-supervision of PhD thesis** "Shape memory materials. Cu-based alloys", Marlen Carmela Gurau. Supervision: Prof Elena Drugescu ("Dunarea de jos" University, Galati, Roménia). Defended at Galati University, July 2008.

**Supervision of PhD thesis** “In service behavior of Ni-Ti endodontic superelastic files”, Sancho de Vilaverde Correia. Co-supervision: Luis Miguel Pires Lopes (Faculdade de Medicina Dentária, Universidade de Lisboa). Defended at FCT/UNL, 07/10/2009.

**Cosupervision of PhD thesis** “Studies and research on improving steel straps’ mechanical characteristics by applying thermal treatments in continuous flux”, Florian Tiberiu . Supervision: Prof Elena Drugescu ("Dunarea de jos" University, Galati, Roménia). Defended at Galati University, July 04/03/2011.

**Supervision of PhD thesis** “Laser welding of shape memory alloys”, João Pedro Oliveira. Cosupervision: Rosa Maria M. Miranda. Started September 2012; defence scheduled for the 1st semester 2016.

**Supervision of PhD thesis** “Microstructural evolution of Ni-Ti wires produced by hot and cold forging”, Patrícia Freitas Rodrigues. Started September 2014.

## **SUPERVISION OF POST-DOCS**

K. K. Mahesh, Post-Doc Grant (FCT/MCES, SFRH/BPD/14937/2004) “Thermal/Mechanical Fatigue behavior of Ni-Ti Shape Memory Alloys”, from 01/06/2004 to 31/05/2007.

K. K. Mahesh, Post-Doc / Contract as Assistant Researcher (Reference C 2007-443-CENIMAT-6) “Nanostructured Materials based on Ni-Ti Shape Memory Alloys”, from 2008 to 2012.

Filipe Neves, Post-Doc Grant (FCT-MCTES, reference SFRH/BPD/38354/2007), “Characterization of Nanostructured Ni-Ti alloys produced by mechanical alloying and thermomechanical processing”, cosupervision of José Brito Correia (INEG, Lumiar) from 2008 to 2011.

Corneliu Craciunescu, Post-Doc / Contract as Assistant Researcher (Ref.<sup>a</sup> C2008-CENIMAT-3) “Production and characterization of nanostructured materials by severe plastic deformation”, from 01/07/2009 to 30/06/2011. Co-supervision: Alexandre Velhinho (FCT/UNL).

## **OTHER TRAINING ACTIVITIES (last 5 years)**

- ERASMUS student Alexandru Alexa from the Galati University, Romania, during the period, 1st March to 30th May, 2011: “Mechanical and structural characterization of Ni-Ti subjected to severe plastic deformation by High-Pressure Torsion and ECAP”. Supervision: F.M. Braz Fernandes and K.K. Mahesh.

- “Basic Concepts of Metallurgy” for 30 technicians from Siderurgia Nacional, Seixal, total de 52 hours, from 24/04/2014 to 17/07/2014. F.M. Braz Fernandes: coordination and lecturing (12 h). Also collaborating on lecturing Rui J.C. Silva and Alexandre Velhinho.

- ERASMUS student Barbey Harold from ENSIACET, Institut National Polytechnique de Toulouse, from May to September 2015: “Experimental elements for a comparison of NiTi and Copper-NiTi archwires”. Supervision: F.M. Braz Fernandes and Rafaella Magalhães.

## **ADMINISTRATIVE AND TECHNICAL POSITIONS (last 5 years)**

**Head of the Structural Materials Section** of Materials Science Department since October 2009 to June 2014.

**Head of the Structural Materials Research Group** of CENIMAT since November 1998.

Member of the **Scientific Committee of Colóquio do Mar**, organized by Escola Naval (Alfeite), November 2010, 2012, 2014.

**Referee** of research projects **IDEIA (AdI)**.

**Referee** of projects for **synchrotron beam time** proposed (2006 and 2010) for **SSRL (Berkeley, USA)**.

**Referee** of **research projects** in the field of **shape memory alloys** submitted to Czech Science Foundation (GA CR), 2008, 2009 and 2010.

**Referee** on the evaluation of the DSc thesis in Materials Science of G. N. Dayananda, “NiTi Super Elastic Shape Memory Alloys for Energy Dissipation in Smart Systems for Aerospace Applications”, University of Mangalore, July 2009.

**Referee** for the “European Mention” of the PhD thesis “Acoblament magnetoelàstic i fricció interna en aliatges tipus Ni-Fe-Ga”, defended September 2010 by Miquel Lluís Corró Moyà, Physics Department of Universitat de les Illes Balears, Palma de Mallorca. Supervisor: Sergey Kustov.

## **PARTICIPATION IN PROJECTS (last 5 years)**

### **Beamtime for synchrotron radiation projects**

#### **ESRF:**

MA-895 – “Combined *in-situ* XRD and Electrical Resistivity Study of the Phase Transformations in Ni-Ti Shape Memory Alloys”, BM20, 12-16/02/2010, ESRF, Grenoble, France.

20-02-693 – “Concurrent Effect of Meltspinning and Severe Plastic Deformation on Shape Memory Alloy Ribbons by Simultaneous XRD and Electrical Resistivity Measurements”, BM20, 14-19/06/2010, ESRF, Grenoble, France.

MA-1019 – “Simultaneous XRD and Electrical Resistivity Measurements of the phase transitions in Co-Ni-Ga ferromagnetic shape memory alloy system”, BM20 19-22/06/2010.

#### **PETRA-III, DESY-HASYLAB:**

“Texture characterization of laser welded NiTi shape memory alloys”, Project No. I-20100250EC, from 29/06/2011 to 04/07/2011, Hamburg, Germany.

“In-situ study of homogenization thermomechanical treatment of Ni-Ti shape memory alloys produced by powder metallurgy”, Project No. I-20110225EC, from 31/10/2011 to 02/11/2011, Hamburg, Germany.

“In-situ study of thermomechanical cycling in shape memory alloys”, Project No. I-20110136EC, from 03 to 07/11/2011, Hamburg, Germany.

“In-situ reaction-assisted diffusion bonding using layered thin films/foils”. Project No. I-20120017 EC, from 02/12/2012 to 05/12/2012.

“NiTi endodontic files - in situ study during flexion”. Project No. I-20120244 EC, from 07/12/2012 a 10/12/2012.

“In situ structural characterization of laser welded NiTi shape memory alloys during thermo-mechanical cycling”. I-20120563 EC, Beamline: P07. Shifts: 9. HEMS, PETRA-III, DESY, Hamburg, de 15/03/2013 a 18/03/2013.

“In situ structural characterization of laser welded NiTi shape memory alloys during thermo-mechanical cycling”. Project No. I-20120563 EC, from 06/08/2013 to 13/08/2013.

### **Research projects funded by FCT/MCTES**

“Compósitos Inteligentes Smart Composites” (PTDC/CTM/66380/2006, FCT-MCTES), from 01/01/2008 to 31/12/2011, CENIMAT (I3N), FCT/UNL, Portugal. PI: Francisco Manuel Braz Fernandes.

“Metalurgia Primitiva no Território Português (Early Metallurgy in the Portuguese Territory) (EARLYMETAL)”. Project started April 2010. PI: M.F. Araújo (ITN). Participating researchers from CENIMAT-FCT-UNL: Rui J. C. Silva (responsible at FCT-UNL), F.M. Braz Fernandes and João P. B. Veiga.

“Joining micro to small scale systems in shape memory alloys using last generation infrared lasers” (PTDC/EME-TME/100990/2008, PI: Rosa Miranda, DEMI, FCT/UNL), started 01/01/2010.

“Assessment of fracture risk of NiTi endodontic files during clinical use” (PTDC/EMEPME/122795/2010, PI: Manuel Freitas, IST/UTL; Responsible for CENIMAT: F.M. Braz Fernandes), from April 2012 to July 2015.

### **Research projects funded by EC**

F.M. Braz Fernandes: consultant of the project “SMARTCATCH - The Development of a Novel Remote Stress Sensing System to Increase Safety, Efficiency and Reduce Environmental Effects in Fishing and Aquaculture sector”, invited by IPN (Instituto Pedro Nunes, Coimbra), 2009/2011.

MIDAS— Micro and Nanoscale Design of Thermally Actuating Systems (Project number 612585, FP7-PEOPLE-2013-IRSES Marie Curie Actions— International Research Staff Exchange Scheme. Start: January 2014; duration: 4 years. Global Coordination: Corneliu Craciunescu (Timisoara, Roménia). Local Coordinator at FCT: F.M. Braz Fernandes.

### **Most recent publications (last 5 years)**

— “Effect of Mechanical Activation on Ti-50Ni Powder Blends Reactivity”. F. Neves, F.M. Braz Fernandes, J.B. Correia. *Materials Science Forum* 636-637 (2010) pp. 544-549.

— “Textural Modifications during Recovery in Ti-Rich Ni-Ti Shape Memory Alloy Subjected to Low Level of Cold Work Reduction”. A.S. Paula, K.K. Mahesh, N. Schell, F.M. Braz Fernandes. *Materials Science Forum* 636-637 (2010) pp. 618-623.

— “Powder Metallurgical Processes for NiTi Shape Memory Alloys”. F. Neves, F. M. Braz Fernandes, I. Martins, J.B. Correia, M. Oliveira, E. Gaffet, N. Boucharat, M. Lattemann, J. Suffner, H. Hahn. *Materials Science Forum* 636-637 (2010) pp. 928-933.

— “Finite Element Modelling of Ni-Ti Shape Memory Alloys”. D.P.L. Silva, R.F. Martins, F.M. Braz Fernandes. *Materials Science Forum* 636-637 (2010) pp. 1112-1118.

— “Some Long Term Corrosion Patterns in Archaeological Metal Artefacts”. E. Figueiredo, R.J.C. Silva, F.M. Braz Fernandes, M.F. Araújo. *Materials Science Forum* 636-637 (2010) pp. 1030-1035.

— “Structural evolution of magnetron sputtered Shape Memory Alloy Ni-Ti films”, R.M.S. Martins, N. Schell, J.v. Borany, K.K. Mahesh, R.J.C. Silva, F.M. B. Fernandes, *Vacuum* 84 (2010) 913-919.

— “In situ XRD study of the transformation characteristics of severely plastic deformed Ni-Ti SMAs”. F.M. Braz Fernandes, K.K. Mahesh, R.J.C. Silva, C. Gurau, G. Gurau. *Physica Status Solidi* 7 (2010) 1348-1350.

— “Smelting and recycling evidences from the Late Bronze Age habitat site of Baiões (Viseu, Portugal)”. Elin Figueiredo, Rui J C Silva, Francisco M Braz Fernandes, M Fátima Araújo, João C Senna-Martinez, João L Inês Vaz. *Journal of Archaeological Science* 37 (2010) 1623–1634 (DOI: 10.1016/j.jas.2010.01.023).

— “Technological continuity in Early Iron Age bronze metallurgy at the South-Western Iberian Peninsula - a sight from Castro dos Ratinhos”. P. Valério, R.J.C. Silva, A.M. Monge Soares, M.F. Araújo, F.M. Braz Fernandes, A.C. Silva, L. Berrocal-Rangel. *Journal of Archaeological Science* 37 (2010) pp. 1811–1819.

— “Phase Transformation in Ni-Ti Shape Memory and Superelastic Alloys Subjected to High Pressure Torsion”. K.K. Mahesh, F.M. Braz Fernandes, G. Gurau. *Advanced Materials Research* 123-125 (2010) pp. 1007-1010.

- “Texture development, microstructure and phase transformation characteristics of sputtered Ni-Ti Shape Memory Alloy films on TiN<111>”. Rui M.S. Martins, Norbert Schell, H. Reuther, L. Pereira, K. Mahesh, Rui Silva, F.M. Braz Fernandes. *Thin Solid Films* 519 (2010) pp. 122–128.
- “Parametric Optimization of Ti-Ni Powder Mixtures Produced by Mechanical Alloying”. Filipe Neves, Francisco M. Braz Fernandes, Isabel Martins, José Brito Correia. *Journal of Alloys and Compound* 509S (2011) S271–S274.
- “Phase transformation and structural study on the severely plastic deformed NiTi alloys”. K.K. Mahesh, F.M. Braz Fernandes, R.J.C. Silva, G. Gurau. *Physics Procedia*, 10 (2010) pp. 22–27.
- “Mechanical behaviour of Nd:YAG laser welded superelastic NiTi”. L. Albery Vieira, F.M. Braz Fernandes, R.M. Miranda, R.J.C. Silva, L. Quintino, A. Cuesta, J.L. Ocaña. *Materials Science and Engineering A* 528 (2011) pp. 5560–5565.
- “Structural Transitions in a Co<sub>2</sub>NiGa Ferromagnetic Shape Memory Alloys”. C.M. Craciunescu, K.K. Mahesh, R.J.C. Silva, F.M. Braz Fernandes. *Solid State Phenomena*, 172-174 (2010) pp. 202–207.
- “Stability in Phase Transformation After Multiple Steps of Marforming in Ti-Rich Ni-Ti Shape Memory Alloy”. A.S. Paula, K.K. Mahesh, F.M. Braz Fernandes. *Journal of Materials Engineering and Performance* 20 (2011) pp. 771–775.
- “Structural study of extruded CuAl<sub>13</sub>Ni<sub>4</sub> shape memory alloy”. F. M. Braz Fernandes, C.Gurau, K. K. Mahesh, R. J. C. Silva, G. Gurau. *Metalurgia International* 16 (2011) pp. 19–23.
- “Laser beam interaction with Ni–Mn–Ga ferromagnetic shape memory alloys”. C.M. Craciunescu, R.M.Miranda, R.J.C.Silva, E.Assunção, F.M.BrazFernandes. *Optics and Lasers in Engineering* 49(2011) pp. 1289–1293.
- “Degradation of dental ZrO<sub>2</sub>-based materials after hydrothermal fatigue. Part I: XRD, XRF, and FESEM analyses”. J. Perdigão, A. M. Pinto, R.C.C. Monteiro, F.M. Braz Fernandes, P. Laranjeira, J.P. Veiga. *Dental Materials Journal* 31-2(2012) pp. 256–265.
- “Stability of thermal-induced phase transformations in the severely deformed equiatomic Ni–Ti alloys”. K. K. Mahesh, F. M. Braz Fernandes, G. Gurau. *Journal of Materials Science* 47-16(2012) pp. 6005–6014.
- “Role of oxygen and nitrogen in mechanical alloying mechanism of Ni–Ti powder mixtures”. F. Neves, F. M. Braz Fernandes, I. Martins and J. B. Correia. *Powder Metallurgy* 55-4(2012) pp. 268–272.
- “Effect of load cycling on the phase transformations in Ni–Ti wires for civil engineering applications”. M. Branco, L. Guerreiro, K.K. Mahesh, F.M. Braz Fernandes. *Construction and Building Materials* 36 (2012) pp. 508–519.
- “Graded transitions in Ni-Ti shape memory alloys processed by severe plastic deformation”. C. M. Craciunescu, F. M. Braz Fernandes. *Functional Materials Letters* vol 5 4(2012) 1250049 (4 pgs).
- “Analyzing mechanical properties and non-destructive characteristics of brazed joints of NiTi shape memory alloys to carbon steel rods”. T.G. Santos, F.M. Braz Fernandes, G. Bernardo, R.M. Miranda. *Journal of Advanced Manufacturing Technology* 66 (2013) pp. 787–793.
- “Simultaneous probing of phase transformations in Ni-Ti thin film Shape Memory Alloy by synchrotron radiation-based X-ray diffraction and Electrical Resistivity”. F.M. Braz Fernandes, K.K. Mahesh, R.M.S. Martins, R.J.C. Silva, C. Baetz, J. von Borany. *Materials Characterization* 76(2013) pp. 35–38. DOI: 10.1016/j.matchar.2012.11.009.
- “Multifocus Optical Microscopy Applied to the Study of Archaeological Metals”. E. Figueiredo, R.J.C. Silva, M.F. Araújo, F.M. Braz Fernandes. *Microsc. Microanal.* 19 (2013) pp. 1248–1254. doi:10.1017/S1431927613001608.
- “Structural Characterisation and Mechanical FE Analysis of Conventional and M-Wire Ni-Ti Alloys Used in Endodontic Rotary Instruments”. D. Montalvão, F. Sena Alçada, F.M. Braz Fernandes, S. Vilaverde-Correia. *The Scientific World Journal* (Hindawi Publishing Corporation) Volume 2014, Article ID 976459, 8 pages. <http://dx.doi.org/10.1155/2014/976459>
- “The benefit of the European User Community from transnational access to national radiation facilities”. E. Barrier, F.M. Braz Fernandes, M. Bujan, M.C. Feiters, A. Froideval, J. Ghijsen, T. Hase, M. A. Hough, M. Jergel, I. Jimenez, T. Kajander, A. Kikas, M. Kokkinidis, L. Kover, H.B. Larsen, D.M. Lawson, K. Lawniczak-Jablonska, C. Mariani, P. Mikulik, J. Monnier, S. Morera, C. McGuinness, P. Muller-Buschbaum, M. Meedom Nielson, U. Pietsch, M. Tromp, M. Simon, J. Stangl, G. Zanotti. *Journal of synchrotron radiation* 21 (2014) pp. 638–639 (DOI:10.1107/S1600577514007619).
- “In situ characterization of NiTi/Ti6Al4V joints during reaction-assisted diffusion bonding using Ni/Ti multilayers”. A.J. Cavaleiro, A.S. Ramos, F.M. Braz Fernandes, N.Schell, M.T. Vieira. *Journal of Materials Engineering and Performance*, vol 23 (2014) pp 1625–1629. DOI: 10.1007/s11665-014-0930-y).
- “XRD Study of NiTi Endodontic Files Using Synchrotron Radiation”. F. M. Braz Fernandes, J.P. Oliveira, A. Machado, Norbert Schell. *Journal of Materials Engineering and Performance*, 23-7 (2014) pp. 2477–2481 (DOI: 10.1007/s11665-014-1056-y).

- “In Situ Phase Evolution of Ni/Ti Reactive Multilayers. A.J. Cavaleiro, A.S. Ramos, R.M.S. Martins, C. Baetz, M.T. Vieira, F. M. Braz Fernandes. *Journal of Materials Engineering and Performance*, 23-7 (2014) pp. 2446-2449 (DOI : 10.1007/s11665-014-1072-y).
- “An experimental study on the response of equal channel angular pressed aluminium subjected to cold rolling”. G. Gurau, C. Gurau, F.M. Braz Fernandes, L.G. Bujoreanu. *Indian Journal of Engineering and Materials Sciences*, 21 (2014) pp. 253-258 (WOS:000339305400002).
- “Surface effects in pulsed laser beam irradiated shape memory alloys”. C.M. Craciunescu, R.M. Miranda, R.J.C. Silva, E. Assunção, F.M. Braz Fernandes. *Journal of Optoelectronics and Advanced Materials*, 17 (2015) pp. 45-49.
- “Shape memory effect of laser welded NiTi”. J.P. Oliveira, F.M. Braz Fernandes, N. Schell, R.M. Miranda. *Functional Materials Letters*, 18-6 (2015) 1550069. (DOI: 10.1142/S1793604715500691)
- “Phase transformations in Ni/Ti multilayers investigated by synchrotron radiation-based x-ray diffraction. A.J. Cavaleiro, A.S. Ramos, R.M.S. Martins, F.M. Braz Fernandes, J. Morgiel, C. Baetz, M.T. Vieira. *Journal of Alloys and Compounds* 646 (2015) pp. 1165-1171. (DOI: 10.1016/j.jallcom.2015.06.037).
- “Fracture modes during severe plastic deformation of NiTi shape memory alloys”. C.M. Craciunescu, R.J.C. Silva, F.M. Braz Fernandes. *Fizika Metalliv i Metallovedenie (Physics of Metals and Metallography)* 116:7 (2015) pp. 698-705 (DOI: 10.1134/S0031918X15070030).
- “High Strain and Long Duration Cycling Behavior of Laser Welded NiTi Sheets”. J.P. Oliveira, R.M. Miranda, N. Schell, F.M. Braz Fernandes. *International Journal of Fatigue* 83 (2016) 195–200.
- “Laser welded superelastic Cu–Al–Mn shape memory alloy wires”. J.P. Oliveira, B. Panton, Z. Zeng, T. Omori, Y. Zhou, R.M. Miranda, F.M. Braz Fernandes. *Materials and Design* 90 (2016) pp. 122–128. (DOI: 10.1016/j.matdes.2015.10.1250264-1275).
- “Laser joining of NiTi to Ti6Al4V using a Niobium interlayer”. J.P. Oliveira, B. Panton, Z. Zeng, C.M. Andrei, Y. Zhou, R.M. Miranda, F.M. Braz Fernandes. *Acta Materialia* 105 (2016) 9-15. (DOI: 10.1016/j.actamat.2015.12.021).

## Chapters of books

- “Role of process and annealing conditions on the electro-optical performances of undoped and n-doped polysilicon grown by LPCVD”. L. Pereira, H. Águas, R. Miguel Martins, F. Braz Fernandes, E. Fortunato, R. Martins; in “Physics and Application of Disordered Materials”. Editado por Popescu Mihai, INOE Publishing House, Bucharest (Romania), 2002, pp. 373-380.
- “Ligas com memória de forma”, M. T. Nogueira e F. M. Braz Fernandes; in *Materiais 2000*, pp. 43/48. Editado por M. Amaral Fortes, Paulo Ferreira, IST-Press, Lisboa, 2003.
- “Shape memory alloys: existing and emerging applications”. R. M. Miranda, F. M. Braz Fernandes, C. M. Craciunescu, L. Quintino, L. Alberty Vieira; Chapter 7 in vol 6 of “Advances in Materials Science Research”. Nova Science Publishers Inc, Hauppauge, NY (EUA). ISBN: 978-1-61209-116-7.
- “Thermomechanical treatments for Ni-Ti alloys”. F. M. Braz Fernandes, K. K. Mahesh, Andersan dos Santos Paula. “Shape Memory Alloys”. InTech (<http://www.intechweb.org/>). Editor: F.M. Braz Fernandes. ISBN: 978-989-95683-0-3. Publicado on-line, 03/04/2013.

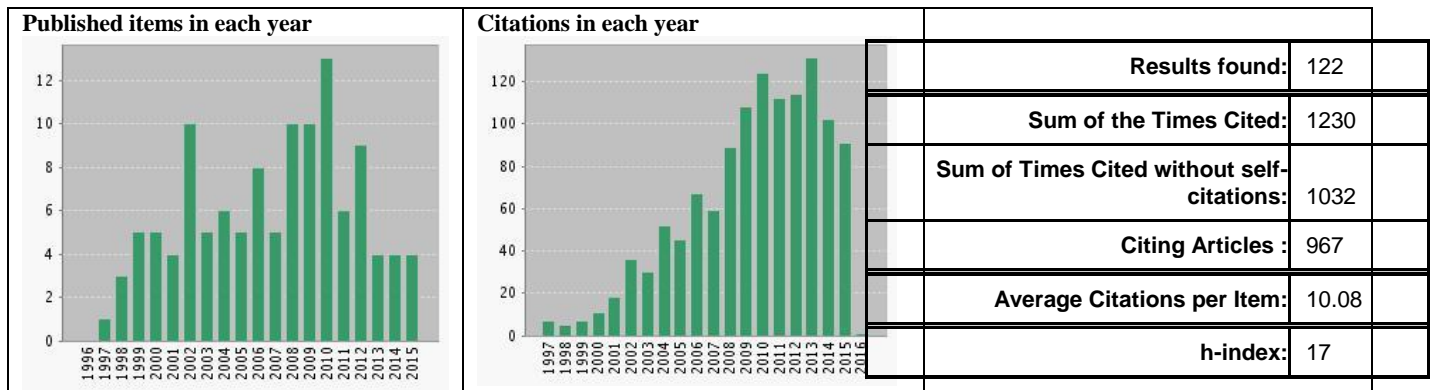
## Books (author / editor)

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(Data from WoS, January 2016; WoS Researcher-ID: E-6176-2011)

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