



## Scientific areas

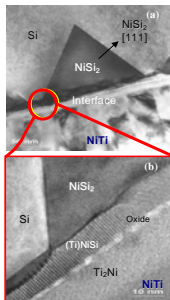
Metal Alloys

Functionally Graded Materials

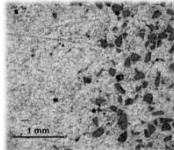
Cultural Materials and Crystal Chemistry

Ceramic and Glass Materials

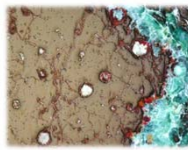
Recycling of Materials



Ni-Ti thin films



Functionally graded Al/SiC composite



Archaeological alloys



Ancient Glass



Slag-based cement



Rare-earth doped glasses

## Projects

**FCT**  
Fundação para a Ciência e a Tecnologia  
Ministério da Ciência, Tecnologia e Inovação Superior

**mnt-era.net**



Marie Skłodowska-Curie Actions

**M-era.Net**

## PhD researchers

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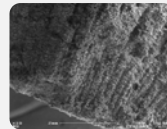
## Collaborators

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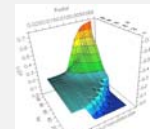
## Main Facilities/Equipments



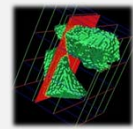
## Research Activities



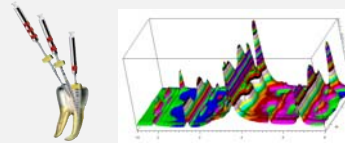
Freeze-cast syntactic functionally graded foam



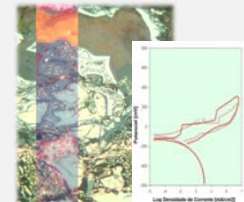
Reinforcement distribution from centrifugal casting



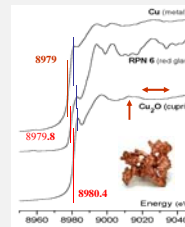
Tomographic reconstruction of composites



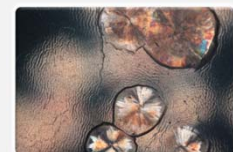
Stress induced transformation in endodontic files



Diagnosis and electrochemical essays in Cu alloys



Synchrotron Radiation X-Ray Absorption Spectroscopy



Crystal growth in phosphate glasses

## Recent publications

- M.L. Coutinho, V.S.F. Muralha, J. Mirão, J.P. Veiga. *Applied Physics A*, 114 (2014) 695-703.
- M. Elisa, B.A. Sava, I.C. Vasiliu, R.C.C. Monteiro, J.P. Veiga, J. Ghervase, I. Feraru, R. Iordanescu. *Journal of Non-Crystalline Solids* 369 (2013) 5560.
- F.B. Fernandes, K.K. Mahesh, R. Martins, R.J.C. Silva, C. Baecht, J. von Borany. *Materials Characterization* 76 (2013) 35-38.
- E. Figueiredo, R.J.C. Silva, J.C., M.F. Araújo, F.M. Braz Fernandes. *Microscopy and Microanalysis* 19 (2013) 1248-1254.
- J. Gandra, P. Vigarinho, D. Pereira, R.M. Miranda, P. Vilaça, A. Velhinho. *Materials & Design*, 52 (2013) 373-383.
- A.A.S. Lopes, R.S. Soares, M.M.A. Lima, R.C.C. Monteiro. *Journal of Applied Physics* 115 (2014) 043516.
- F. Pereira, R.J.C. Silva, A.M.M. Soares, M.F. Araújo. *Journal of Archaeological Science* 40 (2013) 2045-2056.
- T.P. Silva, M.O. Figueiredo, M.I. Prudêncio. *Applied Clay Science* 82 (2013) 101-105.
- S. Sá, M.B. Gawande, A. Velhinho, J.P. Veiga, N. Bundaleski, J. Trigueiro, A. Tolstogouзов, O.M.N.D. Teodoro, R. Zboril, R.S. Varma, P.S. Branco. *Green Chemistry* (2014) DOI: 10.1039/C4GC00558A.

### Book:

"Shape Memory Alloys-Processing, Characterization and Applications", Editor: FM Braz Fernandes. ISBN 978-953-51-1084-2. InTech., Apr 2013 (<http://www.intechopen.com/books/shape-memory-alloys-processing-characterization-and-applications>). 278 pgs.