



## Press release

### *FEMaS – “Fusion Energy Materials Science”*

#### *(English text)*

The first workshop of the European Project, “Fusion Energy Materials Science, FEMaS” will take place at Instituto Tecnológico e Nuclear (ITN) from 12 to 14th January. The major goal of the project is the creation of a European network of State Laboratories and Universities running research activities on the materials required to build the future Fusion Power plants. We expect over 60 scientists from the 27 institutions of the 17 European countries participating in the Consortium led by Max-Planck-Institut für Plasmaphysik (IPP), Garching. ITN in association with the Instituto de Plasmas e Fusão Nuclear of IST is the Portuguese partner in the project.

The project aims at development of new materials able to stand the extreme working conditions of radiation and temperature of the future power plants, which use the Nuclear Fusion to produce energy reproducing in the earth the process taking place in our sun. In order to make real this ecological and economical attractive energy source it is necessary to create materials with unique mechanical properties and very low concentration of neutron activated elements. This will reduce significantly the radioactive waste allowing the use of the premises for other activities few years after the reactor shutdown, which is not the case of the Nuclear Power plants.

By supporting this project the European Community clearly shows its commitment with the quest for new energy resources in order to guarantee a sustainable future for the Humanity. The FEMaS started last October in the framework of the European Fusion programme will run for 3 years with a budget of 3,25 M€ supported on 65% by the EC under FP7.

**(Portuguese text)**

Ir  decorrer no Instituto Tecnol gico e Nuclear (ITN), entre 12 e 14 de Janeiro, a 1<sup>a</sup> workshop do projecto Europeu “Fusion Energy Materials Science, FEMaS”. O objectivo do projecto   reunir em rede os Laborat rios e Universidades da Uni o Europeia a desenvolver investiga o nos materiais necess rios   constru o das futuras centrais de Fus o Nuclear. S o esperados mais de 60 cientistas pertencentes  s 27 Institui es dos 17 pa ses que integram o cons rcio liderado pelo Max-Planck-Institut f r Plasmaphysik (IPP) (Garching) e do qual faz parte o ITN em associa o com o Instituto de Plasmas e Fus o Nuclear do IST.

O projecto visa o desenvolvimento de novos materiais que possam suportar as condi es extremas de temperatura e radia o nas futuras centrais de produ o de energia utilizando a Fus o Nuclear, reproduzindo o processo que ocorre no sol. Para que esta forma ecol gica e economicamente atractiva de gerar energia se torne uma realidade   necess rio criar materiais com propriedades mec nicas  nicas, que possam resistir aos campos de radia o no interior do reactor de fus o e que tenham uma baixa taxa de activa o radioactiva. Isto permitir  reduzir ou eliminar os res duos radioactivos libertando o espa o ocupado pelos reactores para outras actividades comunit rias poucos anos ap s o seu encerramento, ao contr rio do que acontece com as actuais centrais nucleares.

Ao apoiar, atrav s do seu financiamento, esta ac o coordenada a Uni o Europeia mostra claramente a import ncia que atribui   procura de novas fontes de energia de modo a garantir um futuro sustent vel para a Humanidade. O projecto FEMAS iniciado em Outubro de 2008 no  mbito do programa Europeu da Fus o Nuclear ter  uma dura o de 3 anos e tem um or amento de 3.25 milh es de Euros suportando a EU 65% deste montante.

**Contact:**

Dr. Eduardo Alves  
Ion Beam Laboratory, Unit of Physics and Accelerators  
Instituto Tecnol gico e Nuclear (ITN)  
EN. 10  
2686-953 Sacav m, Portugal  
eMail : [eaives@itn.pt](mailto:eaives@itn.pt)  
Phone: +351 219946086  
Fax: +351 219941525  
URL: <http://www.itn.pt>