

## Thematic Actions

### Coordinating Universities for the Proposal: UCM and UPM

<b>Title of Action</b>	<b>Creation of a Laboratory for Advanced Biomedical Imaging Analysis</b>		
<b>Participating partners</b>	UCM, UPM, CIEMAT	<b>Other participants</b>	University hospitals: HGGM
<b>Personnel involved (indicate institution)</b>	UCM (16 researchers), CIEMAT (20), UPM (12)		
<b>Start date</b>	1-1-2010	<b>End date</b>	31-12-2012
<b>Cluster</b>	i-Health (i-Medicine)	<b>Other clusters</b>	
<b>Areas of action</b>	Improved Science / Improved Teaching and EHEA Deployment / Knowledge Transfer		
<b>Location</b>	Moncloa Campus and others		
<b>Infrastructures involved</b>	ICTS CNIB, ICTS Microscopy		
<b>Keywords</b>	Biomedical imaging; Molecular imaging; Imaging quantification		
<p><b>Objectives:</b></p> <ol style="list-style-type: none"> <li>To provide tools (MRI antennae, corrections of the positron range, MC simulations, computing clusters) to fulfil specific user needs.</li> <li>To assist in the quantification of the images obtained and their interpretation, and in the development of improved methods of quantification.</li> <li>To help to select the most appropriate operating mode for existing equipment to suit different experiments.</li> </ol>			
<p><b>Description of the action:</b></p> <p>This action will involve the creation of a Laboratory for Advanced Biomedical Imaging Analysis (LA2IB). This will bring together the expertise of many groups on the Moncloa Campus (UCM, UPM, CIEMAT and the Laboratory of Medical Imaging of HGGM, a hospital associated to the UCM) to provide services for users of molecular imaging on the Campus. Their knowledge encompasses all the steps: from the design of specific hardware and software for data acquisition, to quantitative analysis software, through to testing tools, calibrations and image reconstruction. This facility will help users to plan experiments and to make efficient use of radiopharmaceuticals and the quantitative interpretation of images through the development and optimisation of software and hardware tools to meet their specific needs and make optimal use of the increasingly complex molecular imaging equipment available on the Campus.</p>			
<p><b>Key planned results:</b></p> <p>Increase in the competitiveness of the community using biomedical imaging equipment at CIE-Moncloa and increased user productivity.</p> <p>100% increase over three years in the number of papers published related to medical imaging in prestigious publications and citations of the CIE-Moncloa. This increase is well above the average increase rate of the consortium members.</p>			
<p><b>Rationale for the action:</b></p> <p>M Molecular imaging technology, particularly magnetic resonance imaging with magnetic tracers and PET, requires increasingly complex equipment and software analysis. Personnel must therefore be skilled in molecular imaging, and be able to configure and prepare equipment and rewrite software to meet their specific needs.</p>			
<p><b>Planned impact:</b></p> <p>This action will strengthen the research of groups working in a technological area of great current interest and with great potential for the transfer of research results to socio-economic environment. It will improve the cohesion of consortium members and the collaboration among them in teaching duties with their participation in the Master's degree in Biomedical Physics and the direction of related projects and theses.</p>			