



Action TD1007  
Materials, Physical and Nanosciences

COST Grant System

## Action TD1007 Fact Sheet

### Title

Bimodal PET-MRI molecular imaging technologies and applications for in vivo monitoring of disease and biological processes

### Contacts

#### MC Chair

Prof. George LOUDOS  
Tel. 00302105385375  
gloudos@teiath.gr

#### Science Officer:

Ms Caroline WHELAN  
COST Office  
caroline.whelan@cost.eu

#### Administrative Officer:

Milena STOYANOVA  
COST Office  
milena.stoyanova@cost.eu  
+32 2 533 38 00

### Details

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Start of Action: 27/04/2011

Entry into force: 20/01/2011

End of Action: 26/04/2015

CSO approval date: 02/12/2010

### Objectives

The rapid growth in genetics and molecular biology combined with the development of techniques for transgenic small animals has led to an increased interest in in vivo preclinical molecular imaging; PET-MRI has gained attention over the past five years due to the complementary advantages of those technologies, including soft tissue contrast and low radiation. Molecular imaging with PET-MRI is an interdisciplinary topic; new instrumentation, data acquisition strategies, image processing and reconstruction algorithms need to be developed, evaluated and optimised. In addition, bimodal contrast agents, including nanoparticles are promising candidates for a number of preclinical and clinical diagnostic and therapeutic applications. Although a number of prototype hybrid systems are being developed, enhancing interaction with end users is still critical. Recently, four prototypes of integrated hybrid PET/MRI scanners, were installed at two PET centres in Europe Germany and the United States. Understanding the emerging biological needs, preclinical and clinical challenges, will provide the directions for the design of efficient bimodal probes and optimized imaging equipment. The proposed Action fulfils the need for European coordinated research in the development and application of peak technologies, aiming to bridge the gap between basic biological research and preclinical application with significant social impact.

### Parties

Country	Date	Country	Date	Country	Date	Country	Date
Belgium	07/06/2011	Denmark	08/06/2011	Finland	25/02/2011	France	11/02/2011
Germany	20/01/2011	Greece	20/01/2011	Hungary	17/02/2011	Italy	20/01/2011
Netherlands	04/05/2011	Norway	05/05/2011	Poland	04/03/2011	Portugal	05/05/2011
Spain	20/01/2011	Sweden	10/05/2011	United Kingdom	20/01/2011		

Total: 15



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Intentions to accept the MoU							
Country	Date	Country	Date	Country	Date	Country	Date

Total: 0

Working Groups
None

Website
None

Management Committee	
<b>Chair</b> <b>Prof. George LOUDOS</b> Technological Educational Institute of Athens, Department of Medical Instruments Technology Ag. Spyridonos 28 12210 Athens Greece <a href="mailto:gloudos@teiath.gr">gloudos@teiath.gr</a>	<b>Vice Chair</b> <b>Prof. Christer HALLDIN</b> Karolinska Institutet Department of Clinical Neuroscience, Karolinska Hospital, R5:02 SE-171 76 Stockholm Sweden <a href="mailto:christer.halldin@ki.se">christer.halldin@ki.se</a>
Domain Committee Rapporteurs	
<b>Prof. Zsolt KAJCSOS</b> <b>DC Rapporteur of TD1007 MPNS</b> KFKI Research Institute for Particle and Nuclear Physics Konkoly-Thege M. u. 29-33, P.O. Box 49 1525 Budapest Hungary <a href="mailto:kajcsos@rmki.kfki.hu">kajcsos@rmki.kfki.hu</a>	<b>Prof. Antonio LAGANA</b> <b>DC Rapporteur of TD1007 CMST</b> Computational Dynamics and Kinetics, Department of Chemistry, Faculty of MM FF NN Sciences, University of Perugia Via Elce di sotto 8 06123 Perugia Italy <a href="mailto:lagana05@gmail.com">lagana05@gmail.com</a>

Belgium	
<b>Prof. Stefaan VANDENBERGHE</b> <b>MC Member</b> Ghent University IBITECH, UZ Gent , De Pintelaan 185 9000 Gent Belgium <a href="mailto:Stefaan.vandenbergh@ugent.be">Stefaan.vandenbergh@ugent.be</a>	

Denmark	
<b>Prof. Liselotte HOJGAARD</b> <b>MC Member</b> (not yet registered) <a href="mailto:liselotte.hoejgaard@rh.regionh.dk">liselotte.hoejgaard@rh.regionh.dk</a> PENDING	

Finland	
<b>Prof. Olof SOLIN</b> <b>MC Member</b> (not yet registered) <a href="mailto:olof.solin@utu.fi">olof.solin@utu.fi</a> PENDING	



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France	
<p><b>Prof. Sebastien LECOMMANDOUX</b> <b>MC Member</b> Laboratoire de Chimie des Polymres Organiques ENSCBP, 16 Avenue Pey Berland 33607 PESSAC France <a href="mailto:lecommandoux@enscbp.fr">lecommandoux@enscbp.fr</a></p>	<p><b>Dr Dimitris VISVIKIS</b> <b>MC Member</b> LaTIM, INSERM U650 CHU Morvan, Bat 2 bis, 5 avenue Foch 29600 Brest France <a href="mailto:dimitris@univ-brest.fr">dimitris@univ-brest.fr</a></p>
<p><b>Dr Olivier SANDRE</b> <b>MC Substitute Member</b> LCPO UMR5629 Universit de Bordeaux / CNRS / IPB, ENSCBP, 16 avenue Pey Berland 33607 PESSAC cedex France <a href="mailto:olivier.sandre@ipb.fr">olivier.sandre@ipb.fr</a></p>	<p><b>Dr Mathieu HATT</b> <b>MC Substitute Member</b> INSERM U650 LaTIM CHU Morvan, 5 avenue FOch 29609 Brest France <a href="mailto:hatt@univ-brest.fr">hatt@univ-brest.fr</a></p>

Germany	
<p><b>Prof. Uwe PIETRZYK</b> <b>MC Member</b> Research Center Juelich Institute of Neurosciences and Medicine, INM-4, Leo-Brandt-Str. 52425 Juelich Germany <a href="mailto:u.pietrzyk@fz-juelich.de">u.pietrzyk@fz-juelich.de</a></p>	<p><b>Prof. Sibylle ZIEGLER</b> <b>MC Member</b> Klinikum rechts der Isar, Nuklearmedizin TUM Ismaninger Str. 22 81675 Mnchen Germany <a href="mailto:s.ziegler@lrz.tum.de">s.ziegler@lrz.tum.de</a></p>
<p><b>Prof. Hans HERZOG</b> <b>MC Substitute Member</b> Forschunhszentrum Jlich GmbH Leo Brandt Strasse 52425 Juelich Germany <a href="mailto:h.herzog@fz-juelich.de">h.herzog@fz-juelich.de</a></p>	<p><b>Prof. Bernd PICHLER</b> <b>MC Substitute Member</b> Department of Preclinical Imaging and Radiopharmacy, Clinic of Radiology, University of Tuebingen Roentgenweg 13 72076 Tuebingen Germany <a href="mailto:Bernd.Pichler@med.uni-tuebingen.de">Bernd.Pichler@med.uni-tuebingen.de</a></p>

Greece	
<p><b>Prof. George KAGADIS</b> <b>MC Member</b> University of Patras School of Medicine, Department of Medical Physics 26504 Rion Greece <a href="mailto:gkagad@gmail.com">gkagad@gmail.com</a></p>	<p><b>Dr Nikolaos BALATSOS</b> <b>MC Member</b> University of Thessaly, Department of Biochemistry and Biotechnology Ploutonos 26 412 21 Larissa Greece <a href="mailto:balatsos@bio.uth.gr">balatsos@bio.uth.gr</a></p>
<p><b>Prof. Dimitrios KARNABATIDIS</b> <b>MC Substitute Member</b> University of Patras School of Medicine, Department of Radiology GR 265 04 Rion Greece <a href="mailto:karnaby@upatras.gr">karnaby@upatras.gr</a></p>	

Hungary	
<p><b>Dr Domokos MATHE</b> <b>MC Member</b> CROmed Research Ltd. Baross u. 91-95 H-1047 Budapest Hungary <a href="mailto:domokos.mathe@cromedresearch.com">domokos.mathe@cromedresearch.com</a></p>	<p><b>Emoke LORINCZ</b> <b>MC Member</b> (not yet registered) <a href="mailto:lorincz@eik.bme.hu">lorincz@eik.bme.hu</a> PENDING</p>

Italy	
<p><b>Prof. Alberto DEL GUERRA</b> <b>MC Member</b> University of Pisa Department of Physics, Largo Bruno Pontecorvo 3 56127 PISA Italy <a href="mailto:alberto.delguerra@df.unipi.it">alberto.delguerra@df.unipi.it</a></p>	<p><b>Dr Claudio PIEMONTE</b> <b>MC Member</b> Fondazione Bruno Kessler via Sommarive, 18, Povo 38123 Trento Italy <a href="mailto:piemonte@fbk.eu">piemonte@fbk.eu</a></p>

Netherlands	
<p><b>Dr Dennis SCHAART</b> <b>MC Member</b> Delft University of Technology Mekelweg 15 NL-2629 JB Delft Netherlands <a href="mailto:d.r.schaart@tudelft.nl">d.r.schaart@tudelft.nl</a></p>	<p><b>Dr Kristina DJANASHVILI</b> <b>MC Substitute Member</b> Delft University of Technology Julianalaan 136 2628 BL Delft Netherlands <a href="mailto:k.djanashvili@tudelft.nl">k.djanashvili@tudelft.nl</a></p>



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Norway	
<p><b>Prof. Renate GRUNER</b> <b>MC Member</b> Haukeland University Hospital Dept of Radiology 5021 Bergen Norway <a href="mailto:renate@fmri.no">renate@fmri.no</a></p>	<p><b>Prof. Frits THORSEN</b> <b>MC Substitute Member</b> <a href="mailto:Frits.Thorsen@biomed.uib.no">Frits.Thorsen@biomed.uib.no</a></p>

Poland	
<p><b>Prof. Marek MOSZYNSKI</b> <b>MC Member</b> Soltan Institute for Nuclear Studies Swierk PL 05-400 Otwock Poland <a href="mailto:marek@ipj.gov.pl">marek@ipj.gov.pl</a></p>	

Portugal	
<p><b>Prof. Nuno FERREIRA</b> <b>MC Member</b> IBILI Azinhaga de Santa Comba - Celas 3000-548 Coimbra Portugal <a href="mailto:nuno@ibili.uc.pt">nuno@ibili.uc.pt</a></p>	<p><b>Prof. Pedro ALMEIDA</b> <b>MC Member</b> University of Lisbon - Faculty of Sciences - Physics Department Edificio C8 - 6 Piso, Campo Grande 1749-016 Lisboa Portugal <a href="mailto:palmeida@fc.ul.pt">palmeida@fc.ul.pt</a></p>

Spain	
<p><b>Prof. Georgios KONTAXAKIS</b> <b>MC Member</b> Universidad Politecnica de Madrid ETSI Telecomunicacin, IEL, Av. Complutense 30, Ciudad Universitaria 28040 Madrid Spain <a href="mailto:g.kontaxakis@upm.es">g.kontaxakis@upm.es</a></p>	<p><b>Dr Carlos ZARAGOZA</b> <b>MC Member</b> CNIC Melchor Fernandez Almagro 3 28029 Madrid Spain <a href="mailto:czaragoza@cnic.es">czaragoza@cnic.es</a></p>
<p><b>Dr Cristina LOIS</b> <b>MC Substitute Member</b> Universidade de Santiago de Compostela Colexio de San Xerome. Praza do Obradoiro, s/n. 15782 Santiago de Compostela Spain <a href="mailto:cristina.lois@usc.es">cristina.lois@usc.es</a></p>	<p><b>Dr Luciano ROMERO</b> <b>MC Substitute Member</b> CIEMAT Avd Complutense 22 28040 Madrid Spain <a href="mailto:luciano.romero@ciemat.es">luciano.romero@ciemat.es</a></p>

Sweden	
<p><b>Prof. Christer HALLDIN</b> <b>MC Member</b> Karolinska Institutet Department of Clinical Neuroscience, Karolinska Hospital, R5:02 SE-171 76 Stockholm Sweden <a href="mailto:christer.halldin@ki.se">christer.halldin@ki.se</a></p>	<p><b>Prof. Balazs GULYAS</b> <b>MC Substitute Member</b> Karolinska Institute 17176 Stockholm Stockholm Sweden <a href="mailto:balazs.gulyas@ki.se">balazs.gulyas@ki.se</a></p>

United Kingdom	
<p><b>Dr Charalampos TSOUMPAS</b> <b>MC Member</b> Kings College London The Rayne Institute, 4th floor Lambeth Wing, St. Thomas Hospital Campus, Westminster Bridge Road SE1 7EH London United Kingdom <a href="mailto:charalampos.tsoumpas@kcl.ac.uk">charalampos.tsoumpas@kcl.ac.uk</a></p>	<p><b>Dr Rafael TORRES MARTIN DE ROSALES</b> <b>MC Member</b> Kings College London Division of Imaging Sciences &amp; Biomedical Engineering SE1 7EH London United Kingdom <a href="mailto:rafael.torres@kcl.ac.uk">rafael.torres@kcl.ac.uk</a></p>



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