



**Euro-Biolmaging**  
European Research Infrastructure for Imaging Technologies in Biological  
and Biomedical Sciences

WP8 Molecular Imaging

**Task 8.1**  
Organization of meetings

**Deliverable 8.2**  
Report on meetings to explore current/future dev. in molecular imaging and their demand for  
access

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**Deliverable 8.2**  
Report on meetings

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## **1 Executive summary**

The aim of Euro-Biolmaging (EuBI), a project on the roadmap of the European Strategy Forum on Research Infrastructures (ESFRI), is to provide scientists throughout Europe open access to state-of-the-art imaging technologies at all levels of biological, medical, and molecular imaging research, from bench to bedside. Within this project, Work Package 8 (WP8) deals with imaging technologies related to Molecular Imaging and will pave the way for implementing an integrated imaging infrastructure for both probe development and imaging technologies for molecular imaging, including multi-tracer and multi-modal molecular imaging applications in animal models as well as emerging tissue imaging technologies. In this way, this WP will bridge the gap between basic biological imaging and clinical medical imaging.

## **2 Introduction**

In order to develop such a pan-European infrastructure for molecular imaging in a harmonized, coordinated and well-balanced way, considerations of the expectations, needs and requirements of all interested parties are required. Effective ways to gain insight in the necessities desired by the research community are to (i) interrogate the community by dedicated and targeted surveys or by direct interaction with the audience of dedicated molecular imaging meetings and to (ii) organise proof-of-concept studies for molecular imaging technologies enabling insights in specific user needs.

## **3 About the deliverable and the work package/task**

### **3.1 Objective**

Organize meetings, bringing together life scientists and leaders in innovative molecular imaging technology and probe development in order to explore current and future developments in molecular imaging and the need for wide access to these technologies at the European level.

### **3.2 Approach**

To reach the objective several routes were followed:

1. interactive sessions at dedicated Molecular Imaging meetings
2. meetings assigned to the execution of EuBI Proof-of-Concept Studies (PCS)
3. engagement of WP8 chairs in the implementation of national roadmaps for imaging infrastructures and the integration of Molecular Imaging technologies herein

### **3.3 Results**

#### **1. Dedicated Molecular Imaging meetings**

In the course of the first year of Euro-Biolmaging (EuBI), the first EuBI WP8 meeting was organised together with the European Society for Molecular Imaging (ESMI) during the European Molecular Imaging Meeting (EMIM) 2011 in Leiden, the Netherlands. The meeting took place on June 20, 2011 as a plenary session and attracted more than 100 scientists from the Molecular Imaging community. A detailed report of this meeting has already been submitted (D8.1). The meeting made clear that within the Molecular Imaging community there is a need for upgrading and enhancement of existing infrastructures, however without overregulation or hypercentralization. A follow-up meeting of this session will be organised in the course of the second year of EuBI during the World Molecular Imaging Congress (WMIC) 2012 in Dublin, Ireland. The WMIC 2012 is organized jointly by WMIS (World Molecular Imaging Society) and ESMI and will take place from 5 till 8 of September. Most of the European Molecular Imaging research teams will attend the Dublin meeting. An informal meeting dedicated to Euro-Biolmaging has been scheduled. Furthermore, first organisational steps have been made for another EuBI WP8 plenary session during EMIM 2013 that will take place in Torino, Italy in May 2013. Results of these meetings will be integrated in the last report of this task (D8.3).

WP8 Chairs met representatives from many research groups in the field of intra-vital Molecular Imaging, such as 2-photon microscopy, at the 3<sup>rd</sup> Euro-Biolmaging Stakeholder Meeting at EMBL in Heidelberg, Germany (30-31 January 2012). Node eligibility criteria have been discussed in depth.

In addition to the meetings specifically organized by WP8, each of the four WP Chairs has had dedicated interactions on the peculiar topics of his commitment inside the WP.

Silvio Aime (Radionuclide-based Probe Development for in vivo studies) has attended the following meetings during which he has disseminated information on EuBI and obtained inputs from the encountered researchers:

- 36<sup>th</sup> FEBS Congress of the Federation of European Biochemical Societies, 25<sup>th</sup> – 30<sup>th</sup> June 2011, Turin, Italy
- Final Whole Action Meeting COST D39 “Metallo-Drug Design and Action”, 5<sup>th</sup> – 6<sup>th</sup> July, 2011 Dublin, Ireland
- WMIC 2011, 7<sup>th</sup> – 10<sup>th</sup> September 2011, San Diego, USA
- Multimodal Methods for Cell Imaging and Tracking, 30<sup>th</sup> January – 3<sup>rd</sup> February 2012, Venice, Italy
- European Congress of Radiology (ECR), 2<sup>nd</sup> – 5<sup>th</sup> March 2012, Vienna, Austria

Andreas Jacobs (Multimodal molecular imaging in animal models) has attended the following meetings during which EuBI relevant information was exchanged with fellow researchers:

- MI-Meeting with stakeholder Siemens, 27<sup>th</sup> Feb – 02<sup>nd</sup> March 2011, Los Angeles
- Invited Speaker on dedicated MI-Session on the German Society for Clinical Neurophysiology and Functional Imaging (DGKN) Meeting, 17<sup>th</sup> – 18<sup>th</sup> March 2011, Münster, Germany
- Invited Speaker on 1<sup>st</sup> AMI4Europe (Advanced and Integrated Medical Imaging for Europe) Meeting, 28<sup>th</sup> March 2011, Hannover, Germany
- Plenary Session organizer on 50<sup>th</sup> Anniversary Meeting BRAIN2011, 25<sup>th</sup> – 27<sup>th</sup> May 2011, Barcelona, Spain
- Invited Plenary Speaker on ANOCEF Meeting, 16<sup>th</sup> – 17<sup>th</sup> June 2011, Caen, France
- Invited Plenary Speaker on ISRS2011 Meeting, 29<sup>th</sup> – 30<sup>th</sup> August 2011, Amsterdam, the Netherlands
- Invited Speaker on German Society for Molecular Imaging (MoBiI), 11<sup>th</sup> – 12<sup>th</sup> October 2011, Göttingen, Germany
- Invited Speaker, Molecular Imaging in Radiooncology (MIRO), 29<sup>th</sup> – 30<sup>th</sup> March 2012, Vienna, Austria

James Sharpe (Optical tomography and related light microscopy methods) has attended the following meetings during which EuBI relevant information was exchanged with fellow researchers:

- Invited speaker, International Symposium on Biological Imaging (ISBI), 2<sup>nd</sup> – 5<sup>th</sup> May 2012, Barcelona, Spain
- Invited speaker, New imaging technologies in health and disease, 6<sup>th</sup> – 8<sup>th</sup> October 2011, Athens, Greece
- Invited speaker, EMBO/EMBL Symposia Series: Seeing is Believing Imaging the Processes of Life, 17<sup>th</sup> – 20<sup>th</sup> March 2011, Heidelberg, Germany

Carsten Schultz (Fluorescence-based molecular imaging reporters) has attended the following meetings and courses during which EuBI relevant information was exchanged with fellow researchers:

- Invited instructor, ESF EuroMembrane Advanced Practical Course, 11<sup>th</sup> – 16<sup>th</sup> June 2012, Amsterdam, Netherlands.
- Invited instructor, EMBO Course on Protein Interactions, 4<sup>th</sup> – 8<sup>th</sup> June 2012, Grenoble, France.
- Invited speaker, Keystone Meeting on Chemical Biology, 12<sup>th</sup> – 16<sup>th</sup> February 2012, Santa Fe, NM, USA.
- Invited speaker, Annual GBM meeting, 27<sup>th</sup> – 31<sup>st</sup> September 2011, Frankfurt, Germany.
- Invited speaker, Gordon Conference on Bioorganic Chemistry, 17<sup>th</sup>-20<sup>th</sup> June 2011, Andover, NH, USA.
- Invited speaker, EMBO/EMBL Symposia Series: Seeing is Believing Imaging the Processes of Life, 17<sup>th</sup> – 20<sup>th</sup> March 2011, Heidelberg, Germany

## 2. Meetings related to Proof-of-Concept Studies

During the second year of EuBI, WP8 meetings primarily deal with the setup and running of EuBI PCS for Molecular Imaging technologies. These meetings, mainly telephone conferences but also face-to-face meetings, enabled the identification of suitable PCS sites as well as the harmonisation of the setup and evaluation of the PCS.

12 imaging facilities in 8 countries were open for PCS applications within WP8. From the total of 37 applications for PCS in WP8, 36 passed the central review process on the scientific quality of the PCS application. After this central review process by reviewers independent of the applicants and the imaging facilities, the applications were further evaluated by the facilities chosen by the applicants. WP8 facilities selected the applications on the basis of feasibility and how the results from the PCS could contribute to design the future access activity by a dedicated EU Infrastructure. Eventually for WP8, 27 PCS are being performed in 8 facilities. Conference Calls (CC) with the staff of these 8 facilities are organised on a regular basis. During these CC specific user needs and problems encountered by the external use of the facilities are identified and discussed.

## 3. National Roadmaps

WP8 chairs are actively involved in the implementation of the national roadmaps for imaging infrastructure of their countries and participate in associated meetings or conferences to increase the visibility of and adjust the roadmaps to the specific needs of Molecular Imaging facilities.

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In Italy the national roadmap in the field of Molecular Imaging has been defined through the organization of two meetings with the participation of the main teams from both ALM and Medical Imaging communities:

- 1<sup>st</sup> Meeting of the Italian Molecular Imaging Community, 1 July 2011, Torino, Italy
- 1<sup>st</sup> Workshop of the Italian Molecular Imaging Community (Italy-Biolmaging, ItaBI), 24 November 2011, Torino, Italy. At this workshop the discussion has focused the main eligibility criteria for building up the national imaging infrastructure. Most of the contributions agreed with the idea of forming in Italy two interlinked networks, each connecting four-five Nodes, devoted to ALM (Advanced Light Microscopy) and BMI (BioMedical Imaging), respectively. Each network will offer the Molecular Imaging Community a large access to technologies, cellular and animal models and repositories of probes, according to the specific skills present at the respective Nodes.

In Germany, the German Euro-Biolmaging proposal has been drafted in the time frame November 2011 to January 2012, which was submitted to the BMBF in January 2012. The four coordinators of this proposal comprise the national coordinators for biological and medical imaging, respectively, as well as the two Scientific Coordinators of the EuBI project. The molecular imaging community in Germany has still to be harmonized with regards to specific needs and resources to be offered within the Molecular Imaging network. During the German Medical Imaging stakeholder meeting in Mannheim, 27<sup>th</sup> March 2012, it was agreed that the German Society for Molecular Imaging (Chair: Prof. Dr. Ingrid Hilger, Jena) should be in charge of harmonization within the German Molecular Imaging community.

#### **4 Conclusion**

The consultation-link with the Molecular Imaging community will be maintained in the future, first of all through the reappraisal of the debate during dedicated Molecular Imaging meetings and also on the basis of the results of the ongoing PCS.