



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

WP8 Molecular Imaging

**Task 8.1**  
Organization of meetings

**Deliverable 8.3**  
Report on meetings to explore current/future dev. in molecular imaging and their demand for  
access

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## **1 Introduction**

The aim of Euro-Biolmaging, 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 and biomedical research, from bench to bedside. Within this project, 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 model animals as well as emerging tissue imaging technologies. In this way, this WP will bridge the gap between basic biological imaging and clinical medical imaging.

In order to develop such a pan-European infrastructure for molecular imaging in a harmonised, coordinated and well-balanced way, an overview of (i) emerging molecular imaging technologies with the potential and demand to provide access, of (ii) existing and potential European infrastructure centres capable of providing access to molecular imaging technologies, and of (iii) the expectations, needs and requirements of all interested parties are required.

One important and effective way to gain insight in the necessities desired by the research community is to interrogate the audience at dedicated molecular imaging meetings. Furthermore, engagement of WP8 chairs in the implementation of national roadmaps for imaging infrastructures and the integration of Molecular Imaging technologies herein is another counter-stone in the development of the planned pan-European imaging infrastructure and needs profound knowledge of the desires within the community (community consultations at meetings, task 8.1), the actual landscape and future needs (survey, task 8.3) and the feasibility of a functional infrastructure (proof-of-concept studies, task 8.4).

In such a way it can be ensured that Euro-Biolmaging keeps pace with changing trends and remains able to adjust to emerging technologies and also to changes in user needs in the biological, medical and molecular imaging communities.

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

### **2.1 Objective**

The objective of task 8.1 is to 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.

### **2.2 Approach**

This report is a follow-up report on task 8.1 and complements the efforts described in the previous 2 reports (see D8.1 and D8.2).

The molecular imaging community has been consulted on current and future developments in molecular imaging and the need for wide access to these technologies on several occasions during national and international meetings or conferences. Meetings were

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dedicated to the entire field of Molecular Imaging or to specific sub-fields, with an emphasis on the specific commitment fields of the four WP leaders: probes' development for in vivo studies (S. Aime), integrated multi-modal molecular imaging in animal models (AH. Jacobs), optical tomography and related light microscopy methods (J. Sharpe) and fluorescence-based molecular imaging reporters (C. Schultz).

### 3.2.1 Molecular Imaging meetings

- World Molecular Imaging Congress (WMIC) 2012 – September 5-8, 2012 Dublin, Ireland
- Molecular Imaging Week – March 12-15, 2013 Eindhoven, The Netherlands
- European Molecular Imaging Meeting (EMIM) 2013 – May 26-28, 2013 Torino, Italy
- World Molecular Imaging Congress (WMIC) 2013 – September 18-21, 2013 Savannah, Georgia

### 3.2.2 Dissemination Activities at European and International Conferences

- 8th International Conference on f-Elements (ICFE-8) – August 26-31, 2012 Udine, Italy
- International Conference on Magnetic Resonance in Biological Systems (ICMRBS) 2012 – August 19-24, 2012 Lyon, France
- European Society for Magnetic Resonance in Medicine and Biology (ESMRMB) Congress 2012 – October 4-6, 2012 Lisbon, Portugal
- Chemical Exchange Saturation Transfer Imaging (CEST) – October 15-17, 2012 Annapolis, Maryland, USA
- COST Action TD1004 Annual Meeting “Theranostics Imaging and Therapy: An Action to Develop Novel Nanosized Systems for Imaging-Guided Drug Delivery” – October 28-30, 2012 London, UK
- European Network of Cell Imaging and Tracking Expertise (ENCITE) final public workshop – November 5, 2012 Leiden, The Netherlands
- Syntheses and Methodologies in Chemical Sciences (SAMIC 2012) – December 2-6, 2012 Bressanone, Italy
- Biennial Conference on Contrast Agents and Multimodal Cellular and Molecular Imaging – February 13-15, 2013 Valencia, Spain
- European Congress of Radiology (ECR) 2013 – March 7-11, 2013 Vienna, Austria
- IMAGING & THERAPY New routes toward Imaging, Theranostics and Cell Therapy – March 22, 2013 Milano, Italy
- Biophotonics and Imaging conference BioPIC 2013 – March 25-27, 2013 Dublin, Ireland
- 8th Conference on Field Cycling NMR Relaxometry – May 23-25, 2013 Torino, Italy
- Lanthanide-Based Compounds: from Chemical Design to Applications – July 11-12, 2013 Orléans, France
- International Conference on BioInorganic Chemistry ICBIC 16 – July 22-26, 2013 Grenoble, France
- COST Action TD1004 Annual Meeting “Theranostics Imaging and Therapy: An Action to Develop Novel Nanosized Systems for Imaging-Guided Drug Delivery” – September 1-3, 2013 Athens, Greece
- International Society for Proton Dynamics in Cancer (ISPDC) 2013 – October 10-12, 2013 Munich, Germany
- International Society for Magnetic Resonance in Medicine (ISMRM) Italian Chapter – October 24-25, 2013 Perugia, Italy
- Contrast Media Research (CMR 2013) – November 3-5, 2013 Beijing (China)
- EMBO workshop on single cell microscopy – July 22-29, 2012 Paris, France

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- Chemistry of the Cell 2012 – September 10, 2012 Oxford, UK
  - Chemical Biology 2012 (EMBO conference) – September 26-19, 2012 Heidelberg, Germany
  - Fluorescent Proteins and Biological Sensors III - November 4 - 7, 2012 Janelia Farms, VA, USA.
  - 3rd Biosensor Meeting – March 28-29, 2013 Marseille, France
  - European Symposia in Bio-Organic Chemistry 2013 – May 17-19, 2013 Gregynog, UK
  - American Peptide Symposium 2013 – June 22-27, 2013 Keno, HI, USA

### **2.3 Results**

During these meetings information on Euro-Biolmaging was disseminated through personal interactions and input from the encountered researchers was obtained. From these interactions it became clear that the molecular imaging community is open to the idea of a pan-European infrastructure for access to imaging technologies as planned by Euro-Biolmaging, both from the user and the provider perspective. Especially the integration of multiple imaging technologies and supporting resources in a multi-disciplinary environment with high level technical and scientific excellence and committed to innovative developments from basic science to clinical application could be distilled. This finding resulted in the construction plan for Molecular Imaging Technologies and in the Euro-Biolmaging 1<sup>st</sup> Open Call for Nodes (see D8.9). These consultations also gave insight on current emerging technologies (see D8.5) that might be considered in upcoming calls.

### **3 Conclusion**

The consultation-link with the Molecular Imaging community is fundamental to keep pace with the changing desires and developments within the molecular imaging community and is of utmost importance to keep the planned pan-European imaging infrastructure not only state-of-the-art but also adjusted to emerging technologies and changing user needs, innovative and competitive with the extra-European international imaging research landscape. Therefore this consultation link should be and will be maintained, also beyond the preparatory phase of the project.