

Report of meeting at Frankfurt airport on 25th June, 2009.
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This is a report of the initial EuroBioImaging meeting which was held at Frankfurt airport on 25th June. Representatives from a number of EU countries in the fields of medical imaging and advanced light microscopy attended the meeting and discussed the future status in EuroBioImaging. The meeting was led by the EuroBioImaging scientific coordinators (Jan Ellenberg (EMBL, Heidelberg; Scientific Coordinator for Advanced Light Microscopy) and Gabriel Kreft (Erasmus University, Rotterdam; Scientific Coordinator for Biomedical Imaging)). For the UK light microscopy community, the meeting was attended by Jason Swedlow, Univ of Dundee.

I. EXECUTIVE SUMMARY:

EuroBioImaging will be THE mechanism by which the UK can tap into resources for light microscopy infrastructure from the EU for the next 10-20 years. In order to participate the UK community needs to coordinate a single resource that defines its activities and resources in light microscopy. In addition, the major UK funding bodies (Wellcome CR-UK, BBSRC, MRC) should initiate a process to define a UK national imaging strategy, to clearly state the commitment to imaging infrastructure and, where appropriate, the provision of national centres for imaging technology.

II. WHAT IS EUROBIOIMAGING?

EuroBioImaging is a component of the ESFRI programme from the EU. ESFRI is an “instrument” that provides frameworks for EU science infrastructure (see <http://cordis.europa.eu/esfri/> for more info). EuroBioImaging covers the fields of advanced light microscopy and medical imaging. Other very important fields e.g. electron microscopy are included in a separate ESFRI programme known as INSTRUCT (<http://www.instruct-fp7.eu/>).

EuroBioImaging seeks to identify national level infrastructures that provide access to scientifically valuable imaging infrastructure. With respect to light microscopy, this means microscopy tools and imaging systems that enable internationally competitive research.

Perhaps the most important issue for the UK imaging community to understand is what EuroBioImaging will, and will not do, at least right away. EuroBioImaging is NOT a funding mechanism to support purchase of new microscopes for your imaging facility. Initially, at least, it is a mechanism to drive organization, partnership, links, and ultimately access to imaging resources for life scientists in the EU. Currently, EuroBioImaging will identify, and where necessary, stimulate national level activities that enable access to advanced light microscopy to all EU researchers. Thus a prerequisite for participation is that some level of national coordination (e.g., communication, shared contacts, protocols, and if necessary, access) of imaging facilities and a national imaging strategy is in place. It is anticipated that in FP8, funds will be made available to facilities participating in ESFRI projects, and in our case EuroBioImaging, for upgrades, expansions, training, etc. EuroBioImaging DOES NOT intend to specify the activities of individual centres, but instead will provide links between existing and any newly developed centres.

EuroBioImaging's activities are divided into a preparatory phase, where planning and policy will be defined. The preparatory phase starts in Nov 2010, and continues for 3 years. This is followed by the construction phase, currently scheduled to begin Nov 2013. **Only those institutions that participate in preparatory phase will be able to participate in the construction phase.**

III. IMPORTANCE OF ESFRI AND EUROBIOIMAGING

The importance of the ESFRI mechanism and specifically EuroBioImaging for the UK cannot be underestimated. Currently EuroBioImaging functions mostly as a clearing house and an

organizational unit that can define national resources and facilities and provide mechanisms to link those facilities. EuroBioImaging, like all ESFRI projects proceeds, with a three year preparatory phase where the planning of the infrastructure for imaging resources at the national and EU level takes place. Currently this preparatory phase is scheduled to start in November 2010, and the 'construction' phase then starts 3 years later in late 2013. While this seems a long way off and does not provide an immediate mechanism for our community to procure funding for the imaging systems we require now, there are two reasons why the community should consider participating in EuroBioImaging:

1. The interactions and links that will be defined in the preparatory phase and built and extended in the construction phase will only be done once and the clear statement being made is those who come late to the table will probably not have the level of participation as those who come early. Moreover for our own community it is clear that regardless of the level of excellence and strong funding of advanced light microscopy in the UK, our community has not yet taken full advantage of the potential synergies and interactions that might occur. Considering the geographical size of the UK and the relative ease with which we can travel between our local institutions and the various facilities that exist nationwide, we could do better.
2. FP8 funding priorities are now being set and indications are that all infrastructure funding from the EU in FP8 occur through the ESFRI mechanisms. For our interests that means that access to infrastructure funds for upgrading microscopes and national facilities will only occur through the ESFRI mechanisms in general and specifically for advanced light microscopy through EuroBioImaging.

For these reasons it is imperative that the UK community decide now whether to commit to the EuroBioImaging process. If we decide to work with EuroBioImaging, we should initially build the required linkages to show the national level of infrastructure that we have, and second to do what is necessary to participate in the EuroBioImaging process.

IV. SUMMARY OF EUROBOIMAGING PREPARATORY MEETING

This meeting was held at FRA airport, essentially for convenience. Single, or at max 2, representatives from individual EU countries attended. Most countries were represented, but some there were some notable absences (e.g., France). The meeting amounted to a review of the purpose and goals of ESFRI and EuroBioImaging (as above), and a survey of the individual represented countries facilities in biomedical imaging and advanced light microscopy. Finally, the Work Packages that will make up the Euroboimaging Preparatory Phase application were announced and assigned to various attendees. NOTE: No representative from the UK for biomedical imaging (i.e., MRI, CT, etc.) was present.

V. EUROBOIMAGING ROADMAP

At last week's meeting a number of major points with respect to light microscopy were made clear and provide the context for the actions for the UK community over the next few months.

The roadmap for delivering the EuroBioImaging application is well defined and moving forward. The next important dates are a meeting of the work package leaders at a location to be defined on 10 September. Most importantly for our community, a meeting of EuroBioImaging stakeholders in will be held in Heidelberg on 21st and 22nd September.

The main work packages included in the EuroBioImaging application have been defined. One involves advanced light microscopy infrastructure for a broad usage and one for specific techniques. The broad usage work package is perhaps the most significant opportunity for the United Kingdom. Given the strong level of excellence across many different imaging facilities throughout the UK, a major priority for the UK should be the establishment of linkages between these centres to ensure sharing of protocols, ideas on best practice, and most important from the standpoint of the E process, access for UK and EU scientific researchers. Matthias Peter (ETH, Zurich), Andrea Mussachio (Italy), Paul French (Imperial) and Jason Swedlow (Dundee) have been asked to head up the development of the work package on access to a broad range of microscopy facilities.

The second advanced light microscopy work package involves the definition of specialised centres for provision and development of specific or new imaging tools. Prof Stefan Hell (MPI, Göttingen) will lead this work package. A number of mid-level or national-level facilities have recently been proposed. We are currently liaising with Stefan on where these should be included. Our goal is to ensure that major facilities that either already exist or in the planning or proposal phase are properly represented within the EuroBioImaging framework.

A third work package focuses on data management, and will be coordinated by Michael Unser (Lausanne), Wiro Niessen (Erasmus), and Jason Swedlow (Dundee).

VI. ACTIONS FOR THE UK ADVANCED LIGHT MICROSCOPY COMMUNITY

Based on this meeting, and follow-up discussions with many members of the UK advanced imaging community, the follow actions are recommended.

Action 1:

The UK has very strong, world-class light microscopy at many sites. These facilities are providing cutting edge technology to their users, and in many cases, are providing access to visiting users from other research centres. There are also a number of UK-based imaging groups that have been and continue to do world-leading work. The UK imaging research repertoire includes groups developing new modes of microscopy, new illumination systems, new software and analysis tools and of course cutting-edge scientific applications. However, there is no reference point, web site, contact, or other source that defines the different resources available in the UK, what they have, who to contact, etc. This should be addressed in order to begin building the regional and national level contacts that are a prerequisite for EuroBioImaging: The UK needs a single reference site (ideally a web site or other such resource) that serves as the national imaging resource for its scientists. Initially, this site would just list facilities, their resources, contact, etc. However, we should actively consider expanding this to include protocols, prescriptions for best practice, discussions (or at least links to sites like the UNM Confocal List Server).
→ **A lead for this action needs to be defined. Peter O'toole (York) has volunteered to help. Others to help coordinate and drive this?**

Action 2:

A number of smaller EU countries, especially those with a single science funding body, have developed national imaging strategy statements. While this might seem a simple bureaucratic affair, it is an important statement of our direction, our commitment to providing access to our resources, and our goals for future growth. This most likely can come from the UK funding bodies, Royal Microscopy Society, etc.
→ **Paul French and Jason Swedlow are contacting funding bodies separately to request that a process to define this policy be initiated.**

VII. MEETING OF THE UK ADVANCED LIGHT MICROSCOPY MEETING

The efforts of the UK advanced light microscopy community would likely benefit from a meeting, before the Work Package leaders meeting Sept 10. Given holiday and work schedules, it will be hard to find a time the works for all. Two possibilities have been mentioned:

1. Hold a physical meeting during ~Aug 18-19 somewhere in central UK. York and Manchester have proposed hosting the meeting. Anticipate a discussion of 2-3 hours max.
2. Hold a virtual meeting using a mechanism like Adobe Connect. For a modest fee, we can set up a web meeting for all of us. This would probably be most convenient for those of the community with tight travel schedules.

A real discussion seems preferable to an extended email thread. However, we can try to form a Google Group (or whatever) and see how that goes over the next few weeks.