Euro BioImaging
Preparatory Phase II Project

D7.5 Report on the portfolio of identified CFS training courses in lifelong vocational training

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Abstract

With the aim to set up the future EuBI training portfolio, a first list of identified training courses for CFS training has been established and is presented in this report. Also, the forms and data collected during the process of identification are presented.
The present report constitutes the deliverable D7.5 of the Euro-BioImaging Preparatory Phase II project.

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Introduction and framing of Deliverable D7.5 within Task 7.2

Euro-BioImaging (EuBI) will coordinate and support several levels of training, becoming a one-stop shop for the imaging community's needs for advanced training. By having Europe's best imaging experts under the roof of its Nodes, Euro- BioImaging can offer training of the highest quality. The training strategy focuses on current and future users (Master and PhD students, post-graduates, senior scientists, technicians) as well as on staff of the imaging facilities across Europe.

The EuBI training programme follows a three-pronged approach, which covers general, specific and advanced training needs for users and staff. The user training programme will be incorporated in the Euro-BioImaging open access procedure with hands-on-training for use of instruments designed to bring each user to the level required to use the technology, and successfully perform experiments at the Node and analyse results. And the training of core facility staff (CFS) in terms of latest development in imaging technologies, facility management and soft skills is fundamental, as they will be the main trainers of and support for user and the broad scientific audience.
The objective of WP7 Task 2 is thus to prepare the general coordination of CFS training in EuBI. This task firstly aims to set-up the portfolio of CFS training courses in general and emerging imaging methods at EuBI Nodes and training sites specialized in imaging technology development, with the corresponding procedures for the determination of required course topics and frequency in emerging technologies. This portfolio will also include CFS training courses in lifelong vocational training (covering business processes of core facilities). Procedures for CFS application as well as course evaluation and training sites certification have already been presented in the reports of deliverables D7.2 and D7.3.

Based on this work, WP7 has identified and catalogued a first list of CFS, user and educational training courses that will be offered by training sites affiliated to the 29 EuBI Candidate Nodes. This first list is presented in the present report, along with the methodology and the forms used for data collection, and a brief analysis of the data collected.

Methodology

To establish the list of training courses, WP7 organized a sub-working group dedicated to the elaboration of the training portfolio to allow and facilitate sharing expertise, communication and interaction directly between the WP7 partners and the EuBI Hub. Also, one of the first WP7 activities was to gather all the information and recommendations for the creation of a coordinated system of training in biological and medical imaging presented by the EuBI PPI WP13, as a base to define the different activities to be carried out in order to fulfil the WP7 objectives.

The main activity carried out was the implementation and launch of two surveys in order to identify training sites and collect information about the existing training course offer among the Node Candidates. These surveys were conducted using the Survey Monkey tool (the account was provided by the EuBI PPII WP5 team).
This first training call also allowed to assess the European training offer situation and draw a first list of criteria for the future calls and the elaboration of the EuBI training portfolio.

The first results were shared with the EuBI community during the first EuBI Representative of Nodes Meeting organized during the Global BioImaging Workshop in June 2016 and during the first EuBI Core Facility Staff meeting, held in Seignosse, France, on September 30th, 2016, organized by WP7 (see D7.1 and the minutes of the meeting).

The first survey dedicated to training course registration ran from May 19th to July 15th, 2016. In total, 83 responses were received, but only 59 were considered valid, the other responses corresponding to incomplete responses or tests.

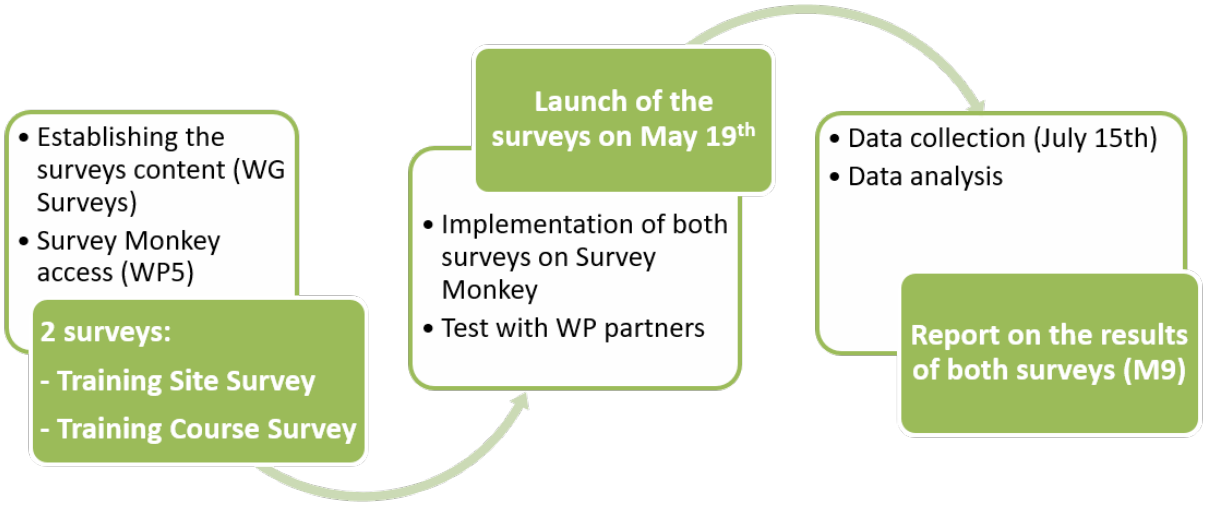


Figure 1 – Process and timeline for the elaboration, implementation and launch of the survey for training course registration.

In May 2017, a new call was launched in order to update the information collected in 2016, to apply the agreed-upon criteria for the evaluation procedure (D7.2), and register new training courses.

As the EuBI Web based system was not ready yet for the repository of training sites or courses in the WAP, WP7 resorted to Survey Monkey for new training courses, and Excel documents for correction of previous information filled in 2016, so that training providers didn't have to re-fill in information they already gave in 2016. The WP7 team contacted them one by one to update the information submitted in 2016. Moreover, they could register new training courses through the new registration form.

This call was open from May 9th to June 9th. During this last call, 10 new training courses have been registered and 12 update forms have been received.

Training course survey: structure and content

The training course survey was based on a form designed to be as close as possible to the future training course registration form and interface, collecting information that the future training platform data base would have to gather to build a resourceful and sustainable training portfolio.

In total, the training course form had 55 questions on the following items:

- Description of the training
- Pedagogical aspects
- Organisational aspects
- Contact information

Skip logic was applied to the survey to create a custom path through the survey that varies based on a respondent's answers.

Also, the form prepared for the registration of new training courses in 2017 included the agreed-upon criteria for training course evaluation and additional information requests (e.g. description of the outcome of the course, imaging technologies covered by the course, application for the EuBI stamp of excellence, etc.).

The form is presented in annex (Annex 1).

Data analysis

It is important to note that the training offer mapped by the surveys is in its own nature non-comprehensive, as it includes training offer at the Node Candidates only, therefore excluding either courses provided in countries that are not part of EuBI (e.g. Germany) or in facilities that are not ratified Node Candidates (e.g. the United Kingdom).
The data analysis and training list presented further down in the document are thus not comprehensive but limited to the responses obtained in the surveys.
Moreover, the analysis below is not restricted to CFS training courses, but presents all data received on available training courses at the registered training sites.

As the outcome of both calls, in total 67 training courses comprising training for users, CFS as well as educational training, have been registered, representing 32 registered training sites, affiliated to 13 Nodes Candidates, in 6 countries and at EMBL.

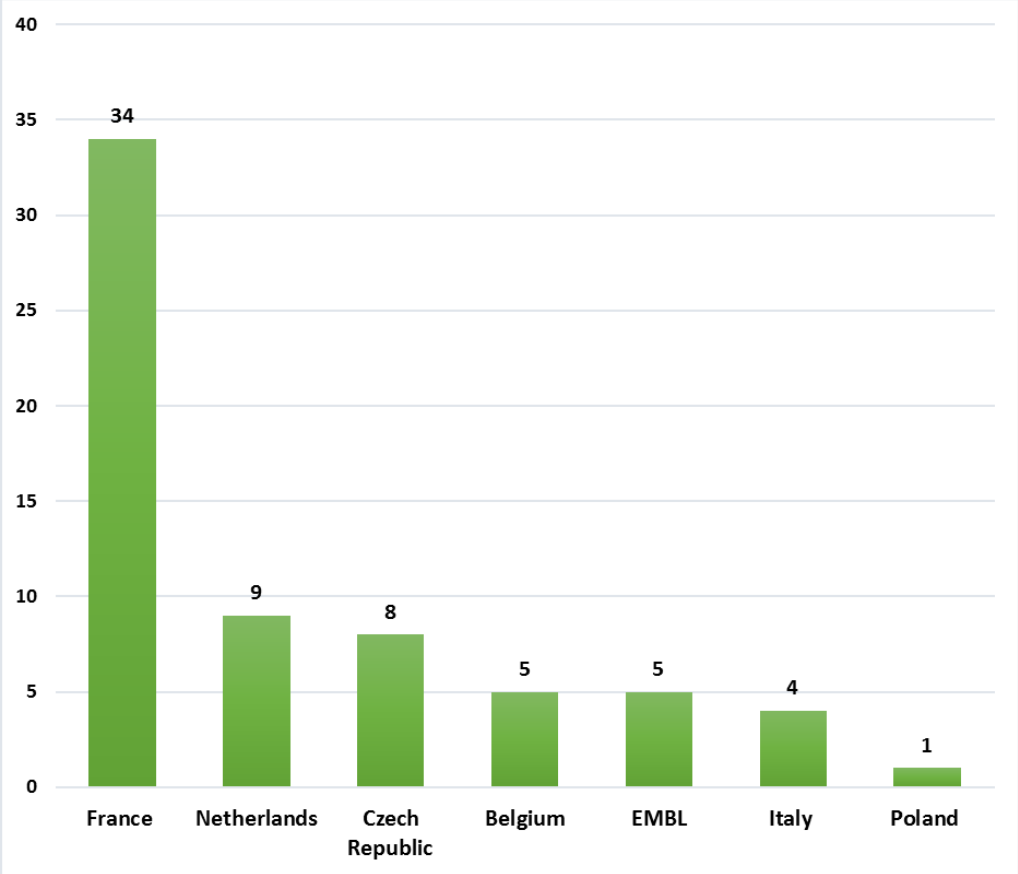


Figure 2 - Number of training courses registered by country or institution.

The information extracted from the results of the surveys draw a profile of the training courses to be offered through the future EuBI training portfolio. Most of the trainings registered are dedicated to biological imaging (85%), teaching hard skills (more than 80%), are basic level courses (50%) and are aimed at users (44%).

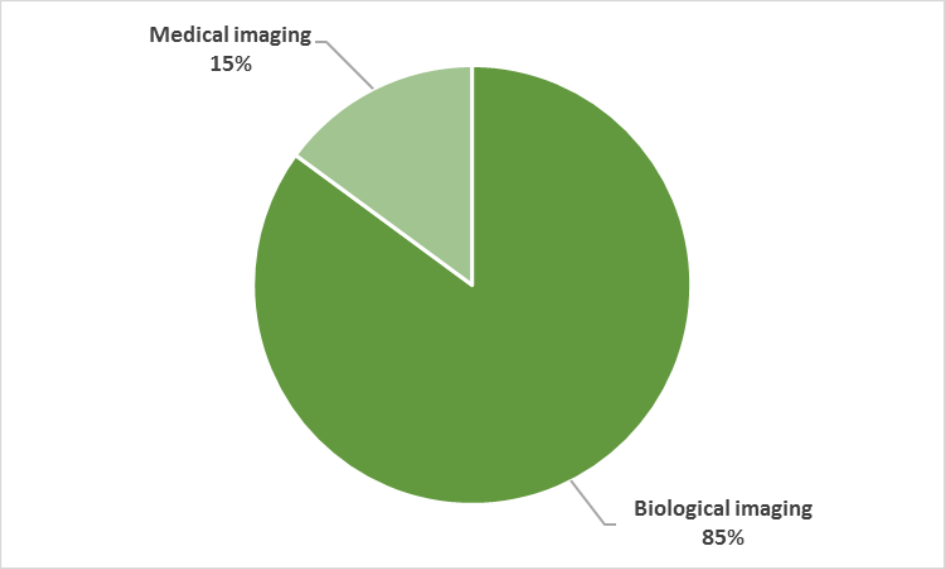


Figure 3 - General aim of the registered training courses.

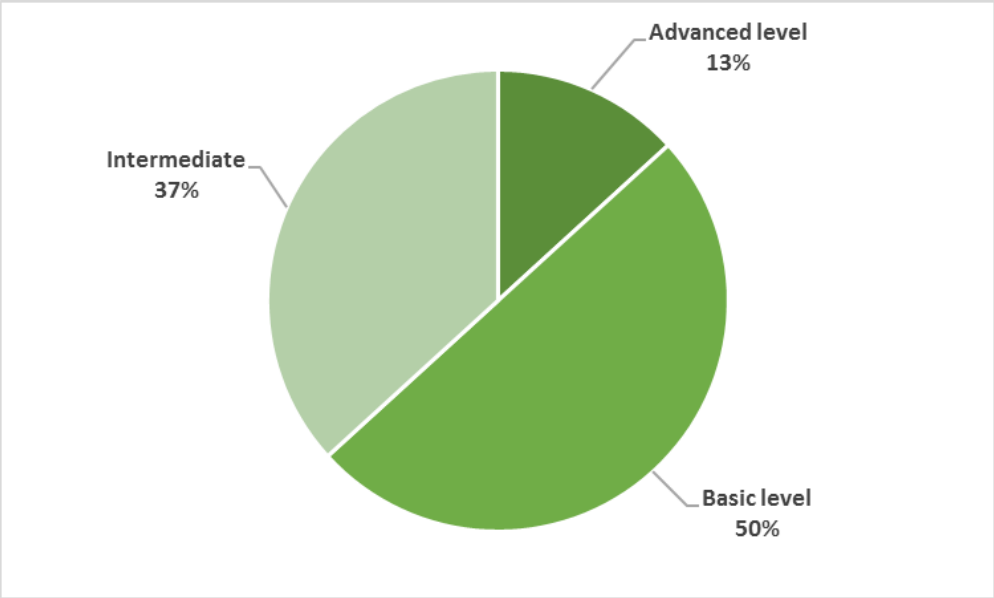


Figure 5 - Level of the registered training courses.

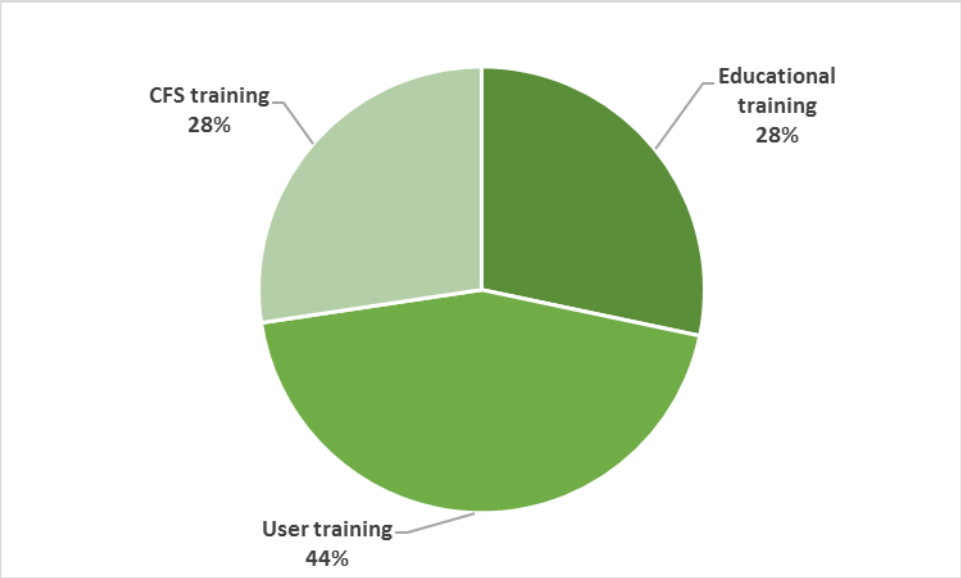


Figure 4 - Target audiences of the registered training courses. Normalized by number of responses (106) in %. Several answers per survey participant possible.

Although most of the training sites offer training courses aimed at more than one type of audience, 3 courses have been strictly identified as "CFS training courses" with a focus on soft and management skills:

- *Establishing and Providing Light Microscopy Core Facility Services* (ALM and Medical Imaging Node Brno, CEITEC - Brno University of Technology - Core Facility Experimental Biophotonics)
- *Scientific platform, instrumental sharing, how to build up and develop a service* (France BioImaging Node, IBDM)

- *Developping and Running Imaging Core Facility* (France BioImaging Node, Institut Curie)

Moreover, all the training courses registered are on-site training and in most of them a mixed teaching approach is used with both theoretical and hands-on modules.

The topics covered by the training courses are presented in the following charts, grouped by training aim (biological or medical imaging).

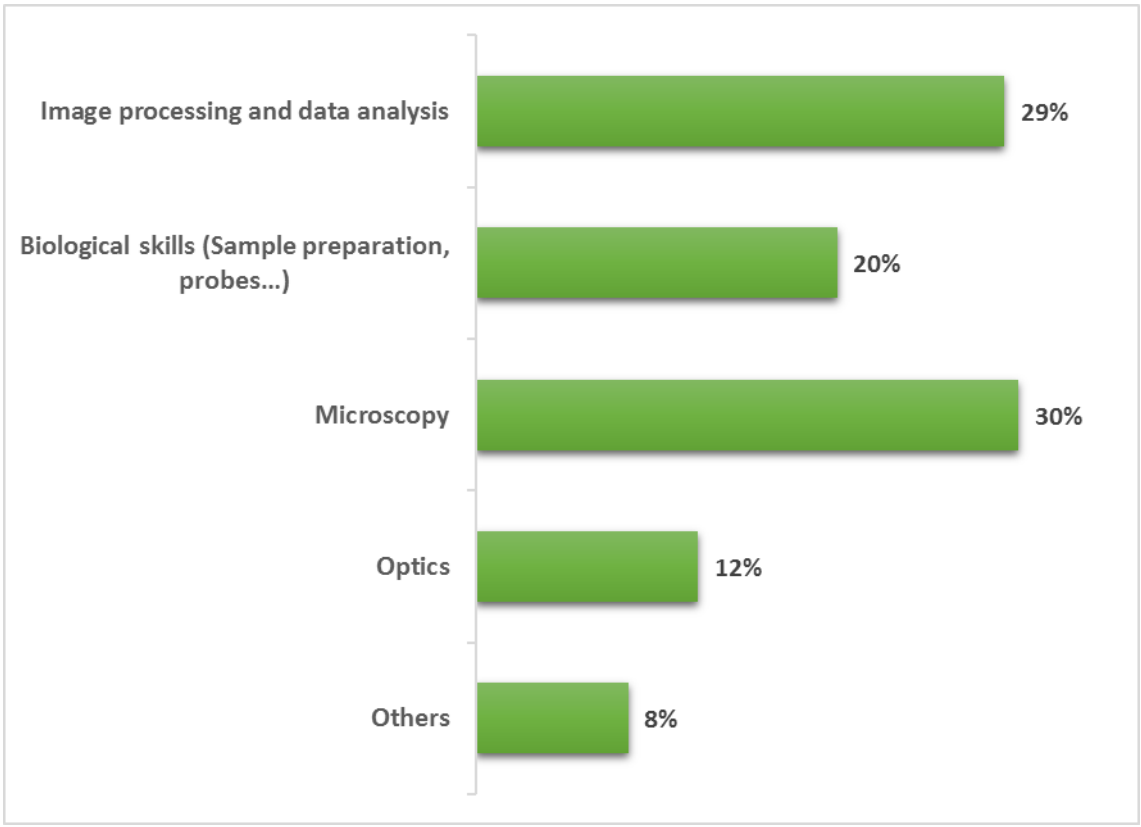


Figure 6 - Topics in biological imaging training courses. Normalized by number of responses (130) in %. Several answers per survey participant possible.

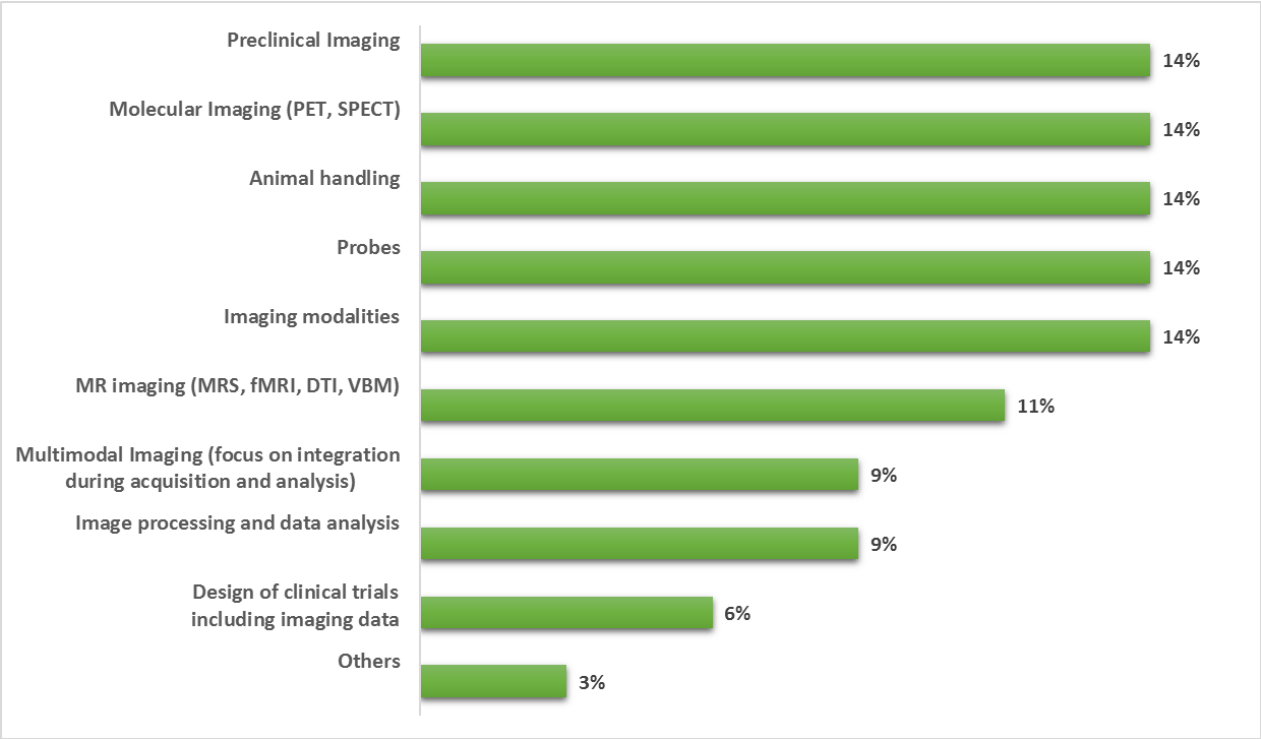


Figure 7 - Topics in medical imaging training courses. Normalized by number of responses (35) in %. Several answers per survey participant possible.

The results of the surveys also pointed out key challenges and gaps:

- The offer in advanced level training activities does not meet the needs of the community highlighted in the PPI WP13 "*Euro-BioImaging Strategic Inventory Map, Outcome of the survey"* report;
- The number of training courses specifically aimed at CFS, with a content dedicated to soft skills and management skills is still low;
- The difficulty to identify medical imaging training courses;
- The difficulty to identify e-training courses or resources.

The strategy that will be elaborated by the future EuBI training coordination, when implementing a specific EuBI training offer, should take into account these challenges and gaps in order to propose a training portfolio that meets each community needs.
This strategy should entail:

- The implementation of a portfolio of specialized and advanced training courses for CFS and users;
- The implementation of new training models and expand existing ones, focusing on soft and management skills teaching for CFS. This should be done within a defined and sustainable "train the trainer" programme focused on facility management and advanced scientific courses, which will help to educate and professionalize a new generation of imaging experts;
- Proposing a coordination system ensuring the representation of both communities - medical and biological- in the EuBI training portfolio;

- Implementing a virtual platform on the EuBI WAP and integrate an e-training offer to the EuBI training repository. WP7 will propose an e-learning and e-training concept in the report of the D7.6 (M24), in preparation of the future implementation of the EuBI virtual platform;
- Strengthening the connection between the biological imaging community and the industrial companies through the collaboration with the EuBI Industrial Board for the elaboration of contents for training courses and the identification of emerging technologies.

List of training courses and general description

The tables below show the 67 courses for biological and medical training that have been registered up to now to be included in the future EuBI training portfolio. The training courses are grouped by aim, country, Node Candidate and training site affiliation. The target audience is indicated for each training course.

BIOLOGICAL IMAGING	Educational training (part of Master/PhD program...)	Core Facility Staff training	User training
Belgium			
FLAMINGO - Molecular Imaging Belgium Node			
• **University of Antwerp - Bio-Imaging lab**			
Small animal MR Imaging of the central nervous system	X	X	
LIMBO - Advanced Light Microscopy Belgian Node			
• **Antwerp Centre for Advanced Microscopy (ACAM)**			
From Pictures to Numbers (P2N): Course on Quantitative Fluorescence Microscopy	X		X
• **Ghent University, Department of Pharmaceutics**			
Course on Light and Fluorescence Microscopy	X		
• **VIB / KU Leuven**			
Image Analysis workshop			X
Czech Republic			
Advanced Light and Electron Microscopy Node Prague CZ			
• **Institute of Molecular Genetics ASCR**			
Microscopy Methods in Biomedicine	X		X
Processing and analysis of microscopic images in biomedicine	X	X	X
Superresolution Techniques in Light Microscopy			X
Transmission Electron Microscopy in Life Sciences	X		X
ALM and Medical Imaging Node Brno CZ			
• **CEITEC**			
Advanced live cell imaging			X
Image analysis of biological samples			X
• **CEITEC - Brno University of Technology - Core Facility Experimental Biophotonics**			

Establishing and Providing Light Microscopy Core Facility Services		X	
• **Masaryk University - Faculty of Informatics**			
Summer School on Advanced Methods in Biomedical Image Analysis		X	X
France			
France BioImaging Node			
• **Bordeaux Imaging Center**			
Acquisition, treatment and image analysis with MetaMorph			X
Cryomethods (High pressure Freezing and the different freeze substitution approaches)		X	X
Image treatment and analysis on ImageJ		X	X
Images reconstruction and 3D analysis with Imaris		X	X
Introduction to the mobility mesurement of proteins by FRAP and SPT		X	X
Java for imageJ: plugins		X	X
Metamorph advanced training		X	X
Super resolution in photonic microscopy		X	X
Tasks automation on ImageJ : the macros		X	X
Widefield and confocal microscopy			X
• **France BioImaging Paris Centre**			
France bioImaging CLEM course	X	X	X
• **IBDM**			
ImageJ software and macro practice	X		X
Scientific platform, instrumental sharing, how to build up and develop a service		X	
• **Imagerie-Gif**			
Atelier de microscopie confocale			X
Image J			X
Transmission electron microscopy for cell biology			X
• **Institut Curie**			
Developping and Running Imaging core F		X	
FBI-AT (France BioImaging Advanced Training)		X	X
MiFoBio CNRS "summer" School	X	X	X
• **Institut Jacques Monod – ImagoSeine**			
Biological Imaging analysis with ImageJ		X	X
Biophotonique	X		
Facility Engineer in Biology	X		
• **IPAM-IGF**			
Animal house core facilities	X	X	X
Small Animal Imaging in Cancer Research school			X
• **Montpellier RIO Imaging**			
Cellular Biology	X		

Microbiology of Eukaryotic cells, Practicals on microscopy	X		
Plant Molecular genetic	X		
Programming macros with imageJ		X	X
Sciences du médicament	X		
The bases of imageJ analysis		X	X
Widefield and confocal microscopy			X
• Université Montpellier 2			
Cellular Biology	X		
EMBL			
EMBL			
• European Molecula Biology Laboratory (EMBL)			
Advanced Fluorescence Imaging Techniques		X	X
EMBO Practical Course: High Throughput Microscopy for Systems Biology		X	X
Fundamentals of Widefield and Confocal Microscopy and Imaging		X	X
Microinjection into adherent cells		X	X
Super-Resolution Microscopy		X	X
Italy			
Molecular Imaging Italian Node			
• Institute of Biostructure and Bioimaging National Research Council			
International PhD	X		
Netherlands			
Erasmus MC OIC - Advanced Light Microscopy Rotterdam Node			
• Erasmus MC / Erasmus Optical Imaging Centre			
Functional Imaging and Super Resolution	X		
Facility of excellence in imaging - ALM and Molecular imaging Node Maastricht			
• Maastricht University			
3D solutions of Cryo-Electron Microscopy			X
Advanced Optical Microscopy for Science Students	X		
Course on Advanced Optical Microscopy	X		
Lecture Series for Biomedical Sciences	X		
The Van Leeuwenhoek Center for Advanced Microscopy (LCAM) - Functional Imaging Flagship Node Amsterdam			
• van Leeuwenhoek Centre for Advanced Microscopy			
In the Footsteps of van Leeuwenhoek/FEBS advanced course			X
Wageningen Imaging and Spectroscopy Hub (WISH) - ALM and Molecular Imaging Node Wageningen			
• Wageningen University			
FEBS advanced course	X		
Poland			
Advanced Light Microscopy Polish Node			
• *Nencki Institute of Experimental Biology*			

Basic microscopy course			X
	Educational training (part of Master/PhD program...)	Core Facility Staff training	User training
Total	**23**	**26**	**40**

MEDICAL IMAGING	Educational training (part of Master/PhD program...)	Core Facility Staff training	User training
Belgium			
FLAMINGO - Molecular Imaging Belgium Node			
• **University of Antwerp**			
Series of courses on Molecular Imaging (part of the curriculum Master BioMedical Sciences with focus on Molecular Imaging, previously also part of a European Master Program on Molecular Imaging)	X		X
Czech Republic			
ALM and Medical Imaging Node Brno CZ			
• **Masaryk University – CEITEC**			
NeuroImaging: Mapping the function and structure of brain	X		X
France			
France BioImaging Node			
• **France Life Imaging - WP Training**			
High resolution mall animal utrasound imaging		X	X
In vivo optical imaging: techniques and applications		X	X
Italy			
Molecular Imaging Italian Node			
• **IBFM-CNR**			
Molecular PET imaging	X		
• **SDN SpA**			
Techniques of Medical Radiology, Imaging and Radiotherapy	X		
• **Univeristy of Torino, Dept. Of Molecular Biotechnologies and Health Sciences**			
Design, preparation and preclinical validation of MRI probes for Molecular Imaging applications	X		
Netherlands			
Facility of excellence in imaging - ALM and Molecular imaging Node Maastricht			
• **Maastricht University Medical Center**			

Noninvasive imaging	X		X
Population Imaging Flagship Node Rotterdam			
• **Erasmus MC University Medical Center Rotterdam**			
XNAT workshop 2017		X	X
	Educational training (part of Master/PhD program...)	**Core Facility Staff training**	**User training**
Total	**7**	**7**	**3**

General information and description of the training courses are available at the following link: https://drive.google.com/open?id=0B3iy3cTc0JM8bGpHSl9kMzJXWlE, where the *EuBI Training Portfolio 2017* is presented, grouping the information gathered in 2016 and 2017.

Training courses presentation in the EuBI training portfolio

The information collected for the identification and description of the training courses through the survey for now, and then through platform hosted on the EuBI WAP, will be used to feed the database of the training portfolio. Training course information will be presented in the portfolio so the users will be able to clearly identify the most suitable training course. Following the EMTRAIN "on-course" website model, the training course information could be presented as follows:

NeuroImaging: Mapping the function and structure of brain

Medical Imaging ***User training – Educational training***

Training site: Multimodal and Functional Imaging laboratory (MAFIL), CEITEC MU

Node affiliation: ALM and Medical Imaging Node Brno CZ

Web address: www.muni.cz

Course type: Onsite training ***Start date:*** To be annouced

Location: Brno ***Duration:*** 3 days ***Cost:*** Free

Technologies: (Micro)-MRI; High-field MRI

Keywords: fMRI; VBM; DTI; neuroimaging; MRI; experiments; SPM; data processing; electrophysiology; EEG; simultaneous EEG-fMRI; NIBS; animal MRI

Description:

The course is focused mainly on master's and doctor's degree students in the field of human brain mapping regardless of primary background. However, any basic knowledge about a brain mapping will be convenient. Attendants will obtain theoretical and practical skills in several neuroimaging techniques with main focus on functional MRI.

Outcomes:

To understand:

- basics of MRI principles.
- basics of neuroimaging MRI techniques, especially functional MRI, diffusion imaging, morphometric methods.
- processing of fMRI data.
- dealing with artefacts in fMRI.
- preparation of fMRI experiments and measurements
- functional and effective brain connectivity with fMRI
- processing and analysis of EEG data
- simultaneous measurement of physiological signals (EEG, ECG, breathing,…) and fMRI.
- specifics of animal MRI studies
- access to services provided by NMR lab at ISI ASCR and MAFIL CEITEC MU

Program

Location

Address

Masaryk University, CEITEC MU
Kamenice 5
Brno
62500
Czech Republic

Liaison officer

Michal Mikl
michal.mikl@ceitec.muni.cz

Administrative contact

Michaela Vanharova
michaela.vanharova@ceitec.muni.cz

Advanced Fluorescence Imaging Techniques

Biological Imaging ***User training – Core Facility Staff training***

Training site: EMBL

Node affiliation: Advanced Light Microscopy Facility, EMBL

Web address: http://www.embl.de/training/events/index.php

Course type: Onsite training ***Start date:*** 25/06/2017

Location: ATC, EMBL, Heidelberg ***Duration:*** 5 days ***Cost:*** 400 Euros (Industry 1000 Euros)

Technologies: Laser scanning confocal microscope (LSCM / CLSM), Deconvolution widefield microscopy; Total internal reflection fluorescence microscopy (TIRF); Stochastic optical reconstruction microscopy (STORM); Fluorescence resonance energy transfer (FRET); Fluorescence recovery after photobleaching (FRAP).

Keywords: TIRF; widefield deconvolution microscopy; laser-scanning confocal microscopy; Super-Resolution Microscopy; image analysis; FRAP; FRET.

Description:

This practical course will cover advanced light microscopy techniques and participants will learn how to derive qualitative and quantitative insights on molecular mechanisms in cells and developing organisms. Invited guest researchers together with experts from the EMBL and microscopy professionals will foster an intense information flow with a balance of lectures and practical workshops. The focus of the course will be on the use of fluorescence microscopy to obtain quantitative information about protein dynamics in living samples. Modules/Resources The topics will include fluorescence microscopy techniques and data analysis such as time-lapse microscopy, confocal microscopy, total internal reflection fluorescence microscopy (TIRFM) and super resolution microscopy (PALM, STORM). The course will cover quantitative methods such as fluorescence resonance energy transfer (FRET), fluorescence recovery after photobleaching (FRAP), photoconversion and photoactivation, deconvolution and will include state-of-the-art data analysis and image processing techniques.

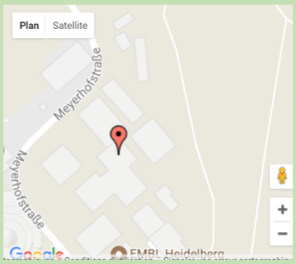
Outcomes:

Participants will get an overview about current advanced fluorescence imaging techniques and be able to start using the techniques covered in the course at their home institute.

Program

Location

Address
EMBL
Meyerhofstr.1
Heidelberg
69117
Germany



Liaison officer
Stefan Terjung
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Administrative contact
Geoffrey Barnett
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Annex 1 - Training course application form 2017

EuBI Training Course Registration Form

Introduction

During the EuBI Interim operation, EuBI PPII WP7 is coordinatingthe registration of biological and medical imaging training courses that will be included into the EuBI training portfolio.

Each training site is invited to fill out the following form to register the training courses to be included in the portfolio.

Deadline to register a training course: June 2nd, 2017.

Important: You have to complete one form for each training course you want to propose.

This second call for training course registration will gather specific information on the training course: description, pedagogical and organisational aspects.
The information collected will allow the implementation of the EuBI training portfolio for users and core facility staff.

You can return to the form to pick up where you left off and/or edit previous responses until you click on the "Done" button at the end of the form. Nevertheless, we advise you to prepare your whole application beforehand, and once you are ready, fill in the fields of the form in one go. To prepare, you can find the full content of the form here.

Once the form is completed you will be redirected to the starting page of a new registration form, so you can propose another training course.

Questions marked with an asterisk (*) are required.

If you have any questions about the survey, please contact us: contact-survey@france-bioimaging.org

EuBI Training Course Registration Form

Training course provider's information

1. Name of the provider *(training site organizing the training course):*

EuBI Training Course Registration Form

Training course provider's information

* 2. Name of the new provider *(training site organizing the training course).*
Important: Please be sure to fill out the EuBI training site application form before registering any training courses.

* 3. Address:

Address

City

ZIP/Postal Code

* 4. Country:

* 5. Specify the institutional link with Euro BioImaging (EuBI Node Candidate affiliation):

EuBI Training Course Registration Form

Training course provider's information

* 6. Name of the proposer:

First name:

Last name:

* 7. Gender:

* 8. E-mail address:

* 9. Phone number:
(Enter your phone number as: 00"country dialing code""your number", and without spaces)

* 10. Role of the proposer in the institution:

- [ ] Core Facility Staff
- [ ] Scientific Head of Core Facility
- [ ] Core Facility Manager
- [ ] Coordinator of Core Facility
- [ ] Technical Head of Core Facility
- [ ] Other (please specify)

EuBI Training Course Registration Form

Training course general information

* 11. Title of the training activity:

* 12. What type of training is it?

- [ ] Educational training (part of Master/PhD programs...)
- [ ] User training
- [ ] Core Facility Staff training

EuBI Training Course Registration Form

Training course general information

* 13. For educational training, please provide a web address and/or a reference to any other public source of information that would be easily available about the corresponding educational programme (Master, PhD):

EuBI Training Course Registration Form

Training course language

* 14. Teaching language of the training:

- ◯ English
- ◯ Other (please specify)

EuBI Training Course Registration Form

Training course information form for courses that are not taught in English

If the training course language is not English, the training course can not be included in the EuBI training portfolio. However, the training course can be advertised on the EuBI website by completing the following information.

* 15. General aim of the training:

- ◯ Biological Imaging
- ◯ Medical Imaging

* 16. What is the target of the training ?

- ☐ Msc students
- ☐ PhD students
- ☐ Post-docs
- ☐ Early career scientists *(less than 8 years from the date of the PhD/doctorate)*
- ☐ Core Facility Staff
- ☐ Core Facility Head
- ☐ Researchers
- ☐ Medical Officers
- ☐ Other (please specify)

* 17. Please provide a brief summary of the training activity (max. 400 characters, incl. spaces):

* 18. Please detail the learning outcomes of the training activity (max. 600 characters, incl. spaces):

* 19. Please indicate the name of the contact for registration/administrative aspects:

* 20. Please indicate the e-mail of the contact for registration/administrative aspects:

21. Link to training course website:

EuBI Training Course Registration Form

Training course organisational aspects

* 22. Type of training course schedule:

- ◯ Full time
- ◯ Part time

* 23. Please precise the duration of the training (number of days/months)

* 24. What is the frequency of this training activity per year? (Use fractional numbers for events occurring less than once a year)

* 25. Are the dates (start/end) of the next training session available?

- ◯ Yes
- ◯ No (To be annouced)
- ◯ Open access (e-learning)

EuBI Training Course Registration Form

Training course organisational aspects

* 26. Please indicate dates of the training course:

	MM	DD	YYYY
Start date:	/	/	
End date:	/	/	

EuBI Training Course Registration Form

Training course organisational aspects

* 27. Is there a deadline for application:

- ◯ Yes
- ◯ To be annouced

EuBI Training Course Registration Form

Training course organisational aspects

* 28. Please specify the deadline for application:

	MM	DD	YYYY
Date	/	/	

EuBI Training Course Registration Form

Training course organisational aspects

* 29. Maximum number of participants:

* 30. Number of instructors:

EuBI Training Course Registration Form

Training course pedagogical aspects

* 31. Teaching approach used:

- ◯ Theoretical
- ◯ Hands-on
- ◯ Both (theoretical and hands-on)

* 32. Teaching technique used:

- ◯ Face-to-face (onsite training)
- ◯ Blended
- ◯ Distance learning

EuBI Training Course Registration Form

Training course description

* 33. General aim of the training:

- ◯ Biological Imaging
- ◯ Medical Imaging

EuBI Training Course Registration Form

Training course description

* 34. Specific topics covered:

- ☐ Optics
- ☐ Microscopy
- ☐ Biological skills (Sample preparation, probes…)
- ☐ Other (please specify)
- ☐ Animal handling
- ☐ Image processing and data analysis

EuBI Training Course Registration Form

Training course description

* 35. Specific topics covered:

- [ ] Imaging modalities
- [ ] Probes
- [ ] Animal handling
- [ ] Image processing and data analysis
- [ ] Molecular Imaging (PET, SPECT)
- [ ] MR imaging (MRS, fMRI, DTI, VBM)
- [ ] Multimodal Imaging with a focus on integration during acquisition and analysis
- [ ] Preclinical Imaging
- [ ] Design of clinical trials including imaging data
- [ ] Integration of Imaging with Biosignal acquisition and processing
- [ ] Other (please specify)

EuBI Training Course Registration Form

Training course description

* 36. Please indicate if the training course will deal with one or several of the following technologies:

- [ ] Laser scanning confocal microscope (LSCM / CLSM)
- [ ] Spinning disc confocal microscopy (SDCM)
- [ ] Deconvolution widefield microscopy
- [ ] Multiphoton microscopy systems
- [ ] Total internal reflection fluorescence microscopy (TIRF)
- [ ] Fourier transform infrared imaging (FTIR)
- [ ] Stimulated emission depletion microscopy (STED)
- [ ] Photo activated localization microscopy (PALM)
- [ ] Stochastic optical reconstruction microscopy (STORM)
- [ ] Reversible saturable optical fluorescence transitions (RESOLFT)
- [ ] Ground state depletion microscopy (GSD) / Ground state depletion
- [ ] microscopy followed by individual molecule return (GSDIM)
- [ ] 4Pi microscopy
- [ ] Fluorescence correlation spectroscopy (FCS)
- [ ] Fluorescence cross-correlation spectroscopy (FCCS)
- [ ] Fluorescence-lifetime imaging microscopy (FLIM)
- [ ] Fluorescence resonance energy transfer (FRET)
- [ ] Fluorescence recovery after photobleaching (FRAP)
- [ ] Raman spectroscopy
- [ ] High-throughput microscopy
- [ ] Electron microscopy
- [ ] Correlative light electron microscopy (CLEM)
- [ ] Objective-coupled planar illumination (OCPI)
- [ ] Selective plane illumination microscopy (SPIM)
- [ ] Optical projection tomography (OPT)
- [ ] Digital scanned laser light-sheet fluorescence microscopy (DSLM)
- [ ] (Micro)-PET
- [ ] (Micro)-SPECT
- [ ] (Micro)-MRI
- [ ] (Micro)-CT
- [ ] (Micro)-US
- [ ] Optical imaging
- [ ] (Micro)-PET/CT
- [ ] (Micro)-SPECT/CT
- [ ] (Micro)-MRI/PET(SPECT)
- [ ] High-field MRI
- [ ] Phase contrast imaging
- [ ] MRI-PET
- [ ] Population imaging
- [ ] Challenges framework
- [ ] Other (please specify):

Please note that emerging technologies or new technologies to EuBI must be evaluated before their inclusion in the EuBI Technology Portfolio. More information: https://www.eurobioimaging-interim.eu/new-technologies.html

* 37. Skills covered by the training:

- [ ] Generic skills - Facility Management (including use of e-management systems, basic accounting, and evaluation procedure)
- [ ] Generic skills - Quality management for core facilities
- [ ] Generic skills - Metrology
- [ ] Generic skills - Data curation/storage/traceability
- [ ] Generic skills - Ethical, safety and regulation issues
- [ ] Soft skills - Writing (papers, projects, reports)
- [ ] Soft skills - Oral presentation (science, tech, core F results...)
- [ ] Soft skills - Ethics/integrity ('how to warrant integrity of data, results and interpretation of results, on the core facility side)
- [ ] Soft skills - Team Building
- [ ] Soft skills - Efficient planning
- [ ] Soft skills - Interpersonal communication
- [ ] Hard Skills - Training on innovative technologies (CLEM, AFM/LM, SMLM, DLSM/SPIM...) and transfer to imaging facility
- [ ] Hard Skills - Metrology and Calibration From regular advanced LM up to High Res LM (SIM, STED, STORM)
- [ ] Hard Skills - Evaluation and test on imaging software (per categories: coloc, 3D recons, registration, tracking...)
- [ ] Hard Skills - Image Data Base/ontologies etc...
- [ ] Hard Skills - MRI pulse sequences
- [ ] Hard Skills - Updates on dual/multimodal Imaging modalities (e.g. PET/MRI)
- [ ] Hard Skills - Non conventional MRI techniques (e.g. CEST-MRI, Hyperpolarized MRI)
- [ ] Hard Skills - 3D reconstruction
- [ ] Hard Skills - Emerging Imaging Methods in Medicine, including multiparametric Imaging
- [ ] Hard Skills - Multivariate methods in imaging processing, including model and data driven approaches
- [ ] Hard Skills - Sample preparation
- [ ] Hard Skills - Training on standard imaging methods (video microscopy, confocal and spinning disk imaging, multiphoton imaging, etc.)
- [ ] Other (please specify)

* 38. What is the target of the training ?

- [ ] Msc students
- [ ] PhD students
- [ ] Post-docs
- [ ] Early career scientists *(less tha 8 years from the date of the PhD/doctorate)*
- [ ] Core Facility Staff
- [ ] Core Facility Head
- [ ] Researchers
- [ ] Medical Officers
- [ ] Other (please specify)

EuBI Training Course Registration Form

Training course description

* 39. Please provide a brief summary of the training activity (max. 400 characters, incl. spaces):

* 40. Please detail the learning outcomes of the training activity (max. 600 characters, incl. spaces):

* 41. Detailed schedule of the training activity:
Please save the document as: "Name of the training site"_"Name of the training"_2017

File types accepted: PDF, DOC, DOCX, maximum file size accepted 16MB

Choose File No file chosen

* 42. Tags identification *(to make it easier for users to find courses with specific properties, will be used for the training course finder on the EuBI Web Access Portal).* Please enter keywords describing the training course separating them by a semicolon:

* 43. Could the course materials be made available for e-learning (future EuBI e-training platform)?

- ◯ Yes
- ◯ No

Training course requirement

* 44. What level of knowledge is required to undertake this training course ?

◯ Basic ◯ Intermediate ◯ Advanced

* 45. Is this training course part of a series of modules, with gradual difficulty?

◯ Yes ◯ No

EuBI Training Course Registration Form

Training course requirement

* 46. Please indicate the training course requirements (required course):

EuBI Training Course Registration Form

Training course evaluation

* 47. Is there an evaluation of the trainee satisfaction at the end of the training?

- ◯ No
- ◯ Yes. Please provide more details about the type of survey conducted:

EuBI Training Course Registration Form

Training course fees

* 48. Do training participants have to pay fees ?

- ◯ Yes ◯ No

EuBI Training Course Registration Form

Training course fees

* 49. Please specify the type of fee:

- ◯ Per Days including accommodations
- ◯ Per Days without accommodations
- ◯ Per Training including accommodations
- ◯ Per Training without accommodations
- ◯ Per access (in case of e-training)
- ◯ Other (Please specify)

* 50. Total amount (in €) per participant:

* 51. Does the training fee take in account the qualifications and origin (Senior Sci,Post Doc, phD…., and academy, industry)?

- ◯ No
- ◯ Yes. Please explain:

EuBI Training Course Registration Form

Training course contact

* 52. Please indicate the name of the contact for registration/administrative aspects:

* 53. Please indicate the e-mail of the contact for registration/administrative aspects:

54. Link to training course website:

EuBI Training Course Registration Form

Training course certification process

Training course providers have the opportunity to obtain the "EuBI Stamp of Excellence" for training activities included in the future EuBI training portfolio. This recognition indicates a high quality training activity as regards to the contents and organizational aspects. The training activity will be then identified as a EuBI training course.
Training activities will be evaluated by the EuBI Hub according to the following criteria:

Criteria	Definition
Content of the course	Course covers imaging methodologies served by EuBI technology list
Definition and transparency of the access rules	Open access to the course + compliance with EuBI access rules: Equally open to international participation and actively advertised
Language	Course is taught in English
Predefined set of teaching objectives and outcomes	Course has a comprehensive description: - topics and skills description, - quality of the program - quality of the teachers
Application of a feedback or evaluation system from participants and teachers	A feedback system is implemented and available to EuBI upon the course completion
Assessment of the participants' achievements	An evaluation form is implemented (template) Formative or summative assessment is implemented
Venue with suitable training infrastructure (Training facilities, accommodation, competences of support staff)	Venue offers all necessary infrastructure for training
Available and updated training materials	Up-to-date training materials are provided for participants
Euro-BioImaging Node	Provider is an EuBI Node*

**** At the beginning, only Nodes will be considered, then the call could be expanded to other sites, provided criteria are met.***

* 55. I would like to apply for the EuBI Stamp of Excellence:

- ◯ Yes
- ◯ No