

# Global Biolmaging Project

## D5.2 Evaluation and final report on shadowing program

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## Abstract

Following the establishment of general guidelines for a job shadowing program as defined in D5.1, WP5 has organized three rounds of international job shadowing for imaging facility staff: European and international operational staff, such as laboratory managers or specialized technical personnel, have been given the opportunity to travel around the world among the countries, which host the project partners (Australia, India, Europe) to visit other infrastructure sites and learn from the exposure to different experiences. 19 travel grants have been assigned after evaluation of the candidates' applications by a panel of international experts. At the time of writing this deliverable, the first two rounds were concluded, and the third one will be finished by the end of August 2018. Feedbacks from both hosts and visiting staff have been and are currently collected: up to now, they show that the program is highly appreciated by all the involved parties. Interest has been shown from people and facilities not only from Australia, Europe and India, but also from GBI associated partner countries and beyond.

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## 1. The three rounds of job shadowing

WP5 has organized three rounds of international job shadowing. To run the program the guidelines developed in D5.1 (open call, evaluation of applications by a panel of 4 independent international experts – 2 from Europe, 1 from Australia and 1 from India - for assignment of travel grants, pairing of hosts and guests, organization of the visits, feedbacks collection after visits) were applied. The timeline of the three shadowing rounds is described in Table 1.

*Table 1. Timeline of GBI job shadowing calls I-III.*

Round	Call	applications	Travel grants assigned	Dates of visits
I	Oct 2016	11 (2 n.e.)	6 (3 to EU staff) *	Feb-Oct 2017
II	Nov 2017	20 (5 n.e.)	7 (3 to EU staff)	Feb- Jun 2018
III	Jan 2018	15 (2 n.e.)	6 (2 to EU staff)**	Jun-Aug 2018

*\*6 TGs assigned but 7 people travelling (one at his own expenses)*

*\*\* Call III was opened to all European imaging facilities staff (not limited to Euro-BioImaging Node Candidates staff), as decided upon consultation with the EC project officer in light of the fact that more shadowing guests compared to ones initially foreseen in the Grant Agreement (GA) could be supported (due to claims for reimbursements lower than expected). 6 TGs were assigned but 8 people travelling.*

The open calls were published on the GBI website (<http://www.eurobioimaging.eu/content-page/international-job-shadowing-program>), also hosting the on-line application form and all related documents (list of hosting Institutions and general guidelines for an international job shadowing program). The lists of hosting institutions have been reviewed and updated before the start of each round. Documentation is still available for consultation on the website.

Overall 46 applications have been received. Distribution of applications among the two imaging communities and according to nationalities of the participants is depicted in figures 1 and 2 below. It is evident that a net prevalence of job shadowing exchanges has been between Europe and Australia, covering in total 67% of the visits (Figure 1.). The ratio of medical and biological imaging applications reflects the involvement of the two communities in the Euro-BioImaging (EuBI) infrastructure and the volume of facility representation within EuBI community (Figure 2.). Not eligible applications (n.e.) were not evaluated for assignment of a travel grant for one of the following reasons: 1) requested exchange was infra-EU (within Europe); 2) the interested applicant belonged to one of the GBI beneficiaries; 3) the applicant had already received a travel grant in one of the previous calls; 4) one application came from Singapore (not travel grant eligible according to GA).

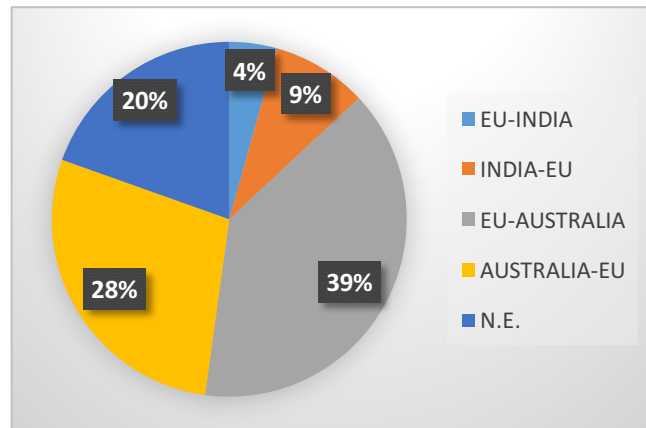


Figure 1. Distribution of job shadowing applications among continents.

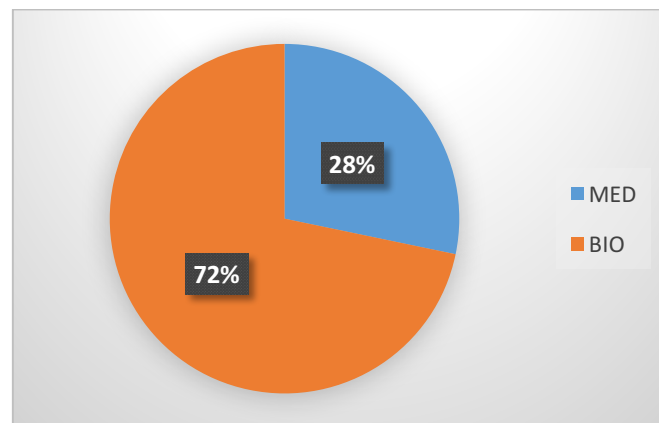
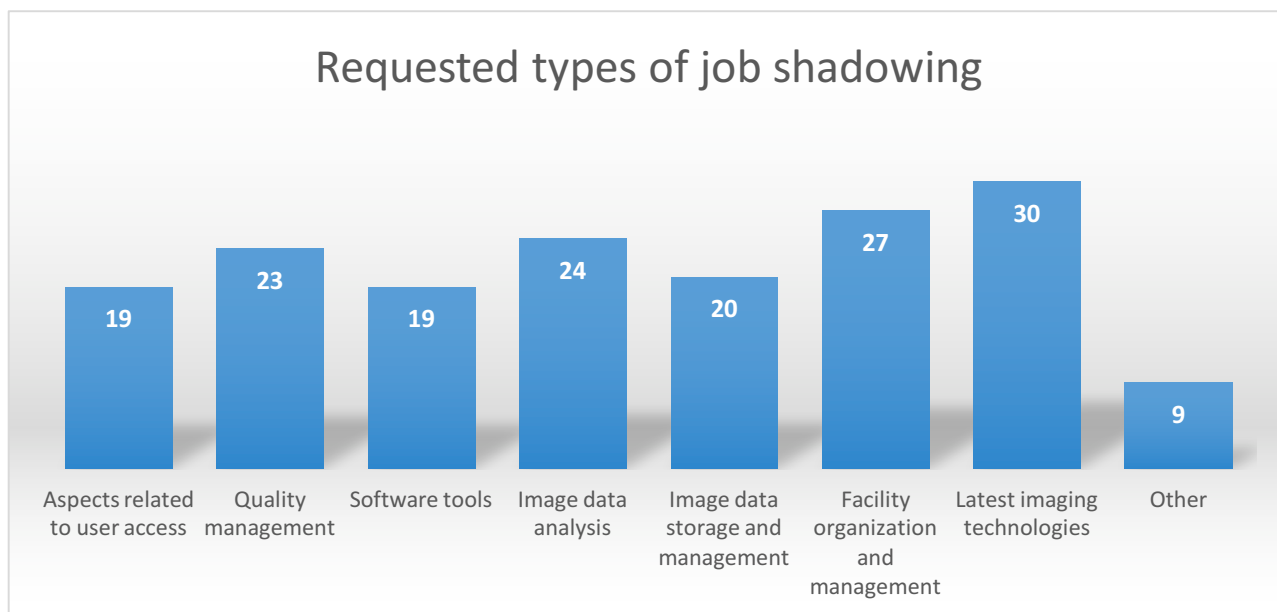


Figure 2. Ration of biological and medical imaging applications in job shadowing program.

The two most requested job shadowing activities are *Facility organization and management* and *Latest imaging technologies*. The differences among the various types of proposed shadowing is overall small, with no net prevalency of some on the other, indicating that the chosen topics are all of interest for shadowing applicants (Figure 3).





*Figure 3. Distribution of types of job shadowing requested through the job shadowing program.*

The applications were evaluated by the external panel of experts who assigned a score to: 1) applicants' CVs, 2) coherence of the applicant's CV and expertise with the requested job shadowing/hosting Institution and 3) foreseen positive returns of the shadowing on the applicant's career and/or on his/her Facility efficiency. Travel grants were assigned to applicants who gained the highest scores, by taking into consideration the number of available grants for the different countries of origin (as defined in the GA) and gender balance.

Upon completion of the visits, both hosts and guests were invited to fill in a feedback form, scoring the program and providing suggestions for improvements (if any). Feedback form templates can be found as part of the Deliverable 5.1. The feedbacks collected so far are very positive (see next paragraph). Suggestions by the hosts and visiting staff have been implemented to improve the shadowing program already from the first round (for example general guidelines have been repeatedly revised and a document with recommendations to hosts and guests aimed at helping them to better organize the visits has been prepared, see Annex 1). At the time of writing this deliverable, revision of the related documents was still ongoing as the third round of visits was not concluded. The complete feedbacks will be used to prepare the Deliverable 5.3 *Report on sustainable strategy for future facility shadowing beyond the duration of Global Biolmaging Project*.

## **2. Evaluation of the shadowing program by participants**

The hosts and the visiting staff have been asked to complete an on-line feedback form at the end of the visits (see D5.1). At the time of writing this deliverable, 14 out of 14 hosts and 14 out of 14 guests had filled the form. Feedback has been overall very positive for all the points asked. The average degree of satisfaction of the shadowing program was over 4 (in a scale from 1 to 5, where 5 is highly positive).

### **Feedback from visiting core facility staff (guests)**

In general, the visiting imaging core facility staff found really interesting to see how other facilities face the same issues they find at home, and went back with new concrete ideas for improving their

own facilities performance or with topics to be discussed with their colleagues to see whether and where there is space for improvements. This has been found particularly useful for discovering quality management approaches and methods to better organize day-to-day operations such as user access and training.

All of the visiting staff were highly satisfied about the hosting they received and guidance by the hosting facility and supervisor (100% rating as 5). When asked if their expectations were met, 100% of the visitors replied that the job shadowing fulfilled their expectations and in many cases even exceeded them. All visitors also indicated that the shadowing visit will enhance their personal career development and was great of a value.

### **Feedback from hosting facilities**

Interestingly, all the hosts except one declared that they had received useful inputs about their own facilities from their guests, showing that the program is useful not only for the shadowers, but also for the tutors. In many cases, the parties stated that they were able to initiate new collaborations or hope that mutual interactions among the involved facilities will continue in the future. In many cases the shadowers also found the experience formative from a personal point of view. Even though some of the hosts found the organization of the visit to be in some parts demanding, the majority found it easy and even wished the visit to last a bit longer for a more productive outcome. Based on the feedback received from the first and the second shadowing calls, the shadowing organizing team learned the support expected from the hosting facilities and was able to develop the guidelines and coordination of the program. It is expected that this will be reflected in the last job shadowing call that is currently taking place.

The maturity level of imaging communities at different countries had an impact on the success of the visits, reflecting on the overall rating by the hosting facility. In cases where this affected negatively the outcomes of the visits, hosts would have benefitted from more information about the coming guests and more coordination support for host-visitor communication. This has been taken into account during the last round of shadowing visits and also should be taken into consideration in future similar initiatives.

More detailed feedback provided by the hosting facilities as well as by visiting staff can be found in Annex 2. Some pictures taken during the Shadowing visits as well as two interviews of the visiting staff can be found in Annex 3.

### **3. Extended possibilities of GBI Shadowing program**

As the shadowing program has been evolving and getting better known among the international imaging community, it has received much appreciation and interest, also outside the Global Biolmaging beneficiaries. Indeed, during the third job shadowing round (ongoing at the time of writing this deliverable), GBI received an application from Singapore. Although this application could not be awarded a travel grant, the applicant decided to organize the visit to Finland anyway at her own expenses, to exploit the opportunity and coordination offered by the GBI project. Similarly, a European applicant who was not issued with the travel grant, decided to do the same and was planning a visit to Australia at the time of writing this report. In these cases, the shadowing program management team still provides coordination and support during the organization of the visits. GBI

has also received a request by a Colombian researcher, who would be happy to have a similar opportunity, and suggested to extend the shadowing program to Latin America. All of the above cases indicate the great interest of the international imaging community in the shadowing program and strongly suggest that it is worth taking all possible measures to extend it to other countries in the future.

#### **4. Conclusions**

Overall the shadowing program has been extremely successful: participants have found it very useful to improve their skills, to bring new ideas and tips to manage their facilities back at home and to start new international collaborations. The opportunity to visit other facilities and learn from them was found very appealing, especially for staff from those facilities that have been implemented most recently. In two cases, interested visiting staff who did not receive a travel grant decided to travel at their own expenses in order to use this unique opportunity. A similar job shadowing program among Canada and US is currently being organized based on the GBI model. Interest in the program has also been shown by people from countries which are currently not involved in the GBI project, showing how important and beneficial the extension of the shadowing program beyond the duration and geographical boundaries of the GBI project would be.

A more detailed description of possible future developments in this regard will be provided in D5.3 and D2.4.

## Annex 1: Recommendations to hosts and guests

### GBI shadowing program in imaging infrastructure facility management RECOMMENDATIONS FOR SHADOWING HOSTS AND VISITORS

*Shadowing visits are organized directly by the involved parties (hosting Institution and visiting person). The following recommendations and attached checklists for both hosts and guests are aimed at providing suggestions that may be of help during the organization of the shadowing visits. However, they are only indicative and do not imply any obligation for any of the involved parties.*

Before the visit, the host should send the visitor detailed information about what can be offered, paying particular attention to items that the visitor has indicated as preferred in her/his application form.

On her/his side, the visitor should inform the host about specific topics she/he is more interested in, and about her/his expectations from the program.

During the preliminary exchanges, both the host and the guest should keep in mind the main objectives of the job shadowing activities in the different aspects of facility management, i.e.: the guest should deepen her/his knowledge on the considered aspect(s) by learning from host's practices, and should be able to identify practices which can be transferred or tested in the home institution.

On the basis of the discussion results, the host and the visitor should agree on an agenda with detailed plans of the activities. The host is kindly invited to share the agenda with the GBI shadowing managers.\*

The period for the shadowing visit is agreed on the basis of the availability of both parties. Visits can take place all year round, but some limitations may apply in order to respect the GBI project administrative timeline. For this reason, the GBI shadowing project managers must be informed and approve the visits schedules.

The host is expected to help the visitor with practical issues (i.e. travel and lodging arrangements).

Once arrived at the hosting facility, the visitor should be provided with relevant information on the facility itself (description of provided services and technologies, local rules, safety issues etc.) and is invited to give a presentation of the activity she/he carries out at her/his home institution. This will allow members of the host facility to get an overview or what the visitor is currently working on: the shadowing activities can thus be more precisely tailored on the visitor's competences and needs.

The host is invited to take some pictures and/or videos during the visit, which could be used for reporting to the EC and advertising possible future activities (with permission).

Although the shadowing activities are mainly aimed at exchanging best practices in management of imaging facilities, reciprocal exchange of information about research projects ongoing at the involved facilities may also take place to favour international scientific collaboration. This is at the host/guest discretion.

Confidentiality must be kept at all times during and after the visit; preliminary confidentiality agreements may be signed at the beginning of the job shadowing period (at the host's discretion).

The GBI shadowing managers can be contacted at any time if clarifications and support are needed.\*

Please also refer to the general guidelines for shadowing, which can be downloaded from the GBI shadowing web-page: <http://www.eurobioimaging.eu/content-page/international-job-shadowing-program>.

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\*GBI shadowing managers contacts: Alessandra Viale: [alessandra.viale@unito.it](mailto:alessandra.viale@unito.it); Inga Pukonen: [ipukonen@abo.fi](mailto:ipukonen@abo.fi), [tbi-office@bioimaging.fi](mailto:tbi-office@bioimaging.fi)

### Checklist for the shadowing host – what can be done to make the most of a visit

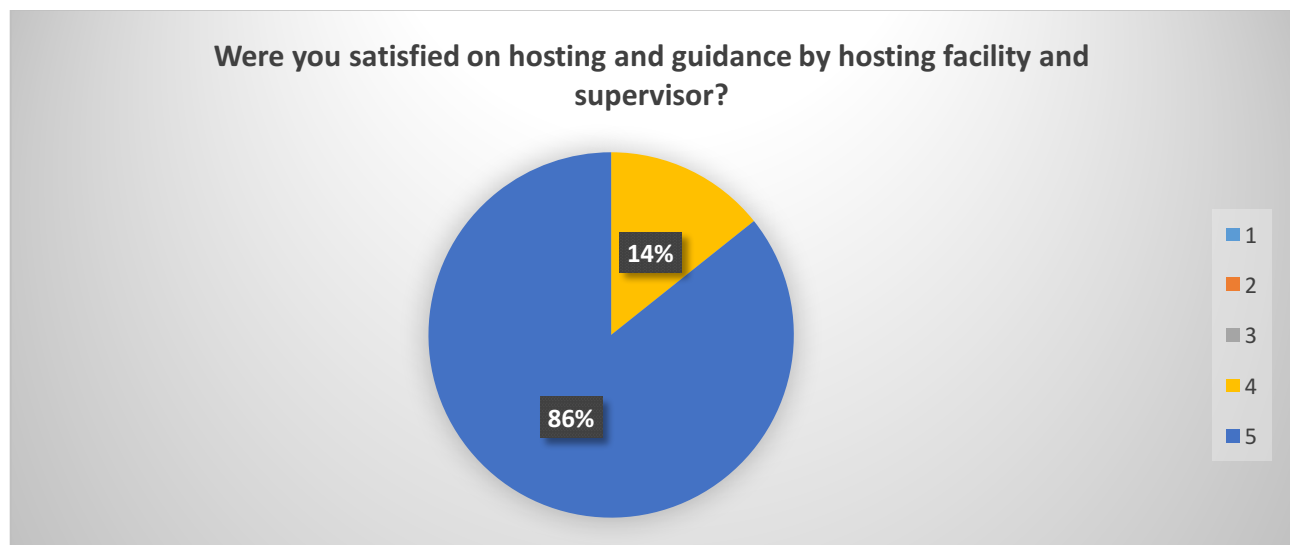
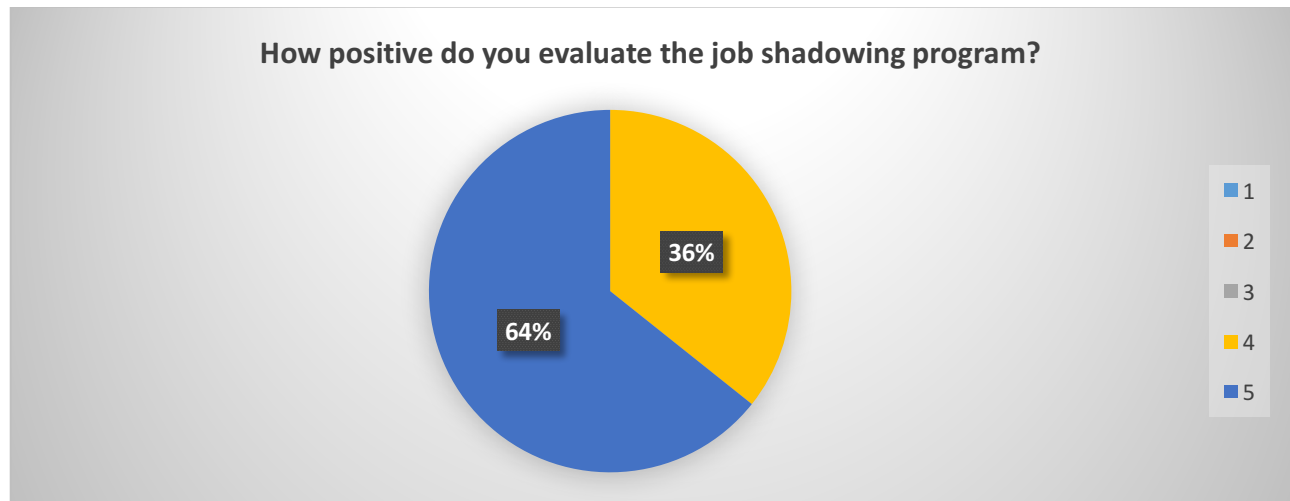
Make sure that the guest's application and CV have been received from GBI shadowing coordinating managers	<input type="checkbox"/>
Contact the guest to agree on possible shadowing activities based on her/his expectations (see general guidelines for a list of possible activities)	<input type="checkbox"/>
Agree on the timeline of the visit and prepare an agenda of the planned activities together with the guest (send the document also to GBI shadowing coordinating manager)	<input type="checkbox"/>
Provide logistical support to the guest prior the visit (travel instructions, accommodation possibilities etc.)	<input type="checkbox"/>
Provide information on main aspects of the host infrastructure at the guest's arrival (description, local rules, safety issues etc.)	<input type="checkbox"/>
Prepare a confidentiality agreement (when needed)	<input type="checkbox"/>
Dedicate office space to the visitor during her/his stay	<input type="checkbox"/>
Provide the necessary access tools to facilities (permissions, electronic keys etc.)	<input type="checkbox"/>
Arrange a seminar (presentation by the visitor and networking possibility with local researchers)	<input type="checkbox"/>
Assign one or more tutors* to the guest	<input type="checkbox"/>
Take picture(s) and/or videos during the visit	<input type="checkbox"/>
Provide the feedback when the shadowing visit is completed	<input type="checkbox"/>

*\*The tutor is a local worker who accompanies the guest while carrying out her/his daily activities: a tutor sharing her/his expertise allows the guest to acquire new skills in the performed activity(ies).*

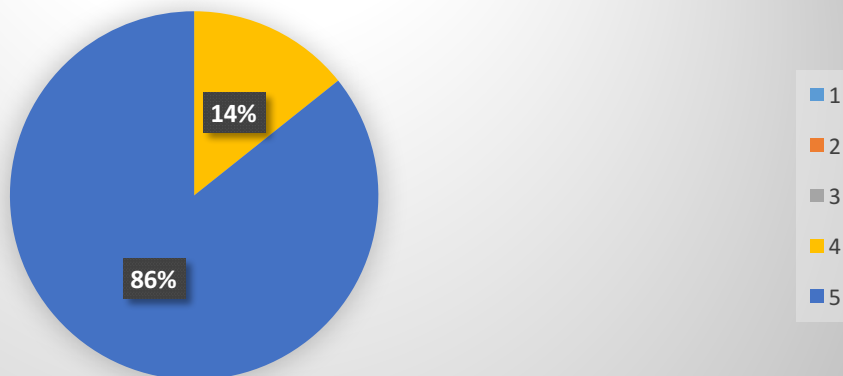
## Annex 2: Feedback summary from hosts and visiting staff

Scores in feedback forms filled by hosts and visiting staff ranged from 1 (negative) to 5 (highly positive).

### Visiting staff



### Did the experience fit your expectations?



### Do you think this job shadowing will enhance your personal/career development?

100% yes.

#### Citations:

- Yes, the visit provided me with valuable insight on requirements for, and feasibility of, performing contract research in an MRI facility. In addition, I was able to gain a better understanding differences in funding, management, and operation of facilities of different size and in different countries.
- Yes, for sure. It helped a lot to develop my management skills, it got me inspired on how to lead and organize the facility plus it also increased my expertise in general microscopy methods overview.
- Job shadowing program gave me opportunity to understand in the details how hosting core facility is organized and operate which will help me to improved organization of my own core facility.
- Absolutely yes, I learned a lot about management and organisation and also about new and diverse imaging techniques that we do not use at home
- Yes. I currently co-ordinate short courses at my centre so it was very useful to see the format in which this was run at hosting facility.
- Yes. It has broadened my knowledge of informatics capability and expertise beyond the Australian national scene, and likewise broadened my network of data management and analysis experts. It has strengthened my national profile and given me a profile in Finland
- I don't think that it will enhance my career development but thanks to the shadowing program, personally i found out that what ever the country you are, there isn't manifold difference t manage an imaging facility. We meet the same human, financial and technical problems. But this experience reinforce me in the idea that an instruments facility exists first thanks to the humans and their experience and second thanks to the instruments.



- Yes, enhanced greatly. For the first time in my career I really started to think my position and role in our imaging facility, and my own career development. In my work I used to be too busy to stop and think, but this visit opened my eyes.
- Yes, I will be able to apply my experience from that visit to further develop our facility and thereby influence my personal career development
- Of course. It was a nice experience in terms of exchange of ideas and knowledge and learning new stuffs. This kind of shadowing visit experience helps respective personnel to find the way to improve his/her management skills and ideas.
- It has been a great learning process for me. Not only was it for a latest imaging technology but it allowed me to do imaging better, cleared lot of basic aspects not well understood before.
- Yes, it will be helpful for my personal and career development. The opportunity to see how the work is organized in such an excellent place and participation/shadowing of some of their activities brought me new knowledge and insights in many areas.
- My personal interest was to foster and start specific research collaborations in the field of pre-clinical MRI and multimodal applications. In this respect the visit turned out to be very fruitful. Very fruitful discussions have taken place with the leading research stakeholders and contacts have been established for further research collaboration. Additionally the discussion with facility stakeholders revealed a specific job opening at the hosting centre that may also become of interest for my further career development in the future.
- Yes, I learnt lots of new things and was able to network with many people. I look forward to making contact with them again in future.

**Do you think this job shadowing will affect your facility's performance? If yes, how?**

100% yes.

*Citations:*

- I will try to implement the things I learned during my job shadowing and use them to improve the performance of my own facility. Also the job shadowing work has open the door to possible collaborations in the future between my facility and the one I visited.
- The visit showed me what we were already doing well and what are the weaknesses of our facility. Particularly the OHS and general administration (documentation) of our facility needs to be highly improved.
- Yes. I was able to learn some tips and tricks with regards to light microscopy imaging (2 photon and STED) and plan to incorporate this into user training.
- The visit has certainly provided me with useful information with regards to day-to-day management and operation of a more established and larger facility. Similarly, I was able to pick-up many project-specific tips and tricks that will help our facility bring on-line new studies more efficiently.
- Participation in the job shadowing program will increase the chances of my node to obtain national grants for building of scientific infrastructure.

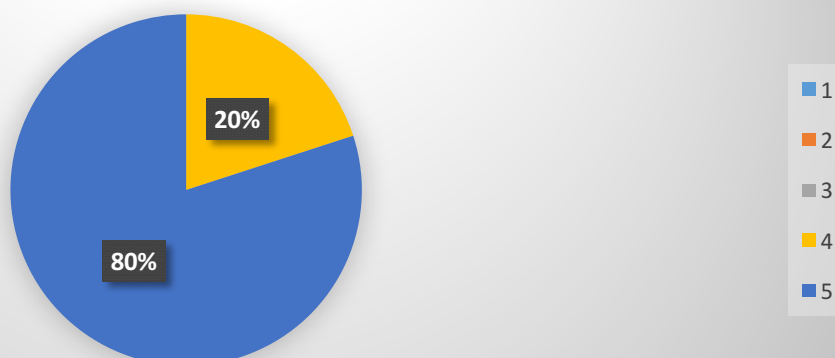


- Yes, through: 1. The exchange of knowledge/experience – I have facilitated contact between similar capabilities between my facility and my host facility; e.g. mass Cytometry, image analysis, data management. 2. The exchange of locally developed open-source software technologies.
- We host many Phd coming from India university. Now, i know more about initial imaging training and microscopy training of these students. That gives me a best reference to adapt the training i do on my facility. That's why I think it will affect the performance of mine facility
- Yes. I found new ideas and many operations, which would be useful to implement in our facility (at least in some level). In addition there were many things, which would be good to discuss here and analyse our functions, if we could improve something. We will discuss about my observations, and I hope we achive some development in following fields: well planned and structured user access and training models; More on quality management of microscopes; - promotion of services and the imaging facility, and contacts to industry; data management policy; better connections to an user and their projects to ensure high quality research and succesful projects; lab safety; + some other minor issues
- I think we will implement some of the organization at the host in our facility. The facility had some very short introductory courses
- Yes, kind of reciprocal exchange of ideas/knowledge and discussion on common challenges during this job shadowing program will definitely help me to conceive ideas for better management and find the scope to improve my facility performance.
- Yes certainly. I can guide the facility personnel into image data analyses who in turn will be able to help our users. If facility gets an upgraded platform, my training on STED will help a lot.
- I think there is a big potential to improve our facility performance by application of some approaches/models used at the host. I am going to introduce new ideas concerning user access and training, reservation system, workflow optimization, teaching at specialized courses etc.
- The deeper insight into the organizational structure of the hosting facility was helpful and shows promise to improve the performance of our facility. [...] We will explore opportunities to implement similar structures at our own facility.
- Yes, I was able to get some key insights into what is needed to run a facility (quite different to ours, so great to see alternative approaches)

**Did you encounter any issues during your stay at the host facility?**

100% no.

**Were you satisfied on communication and organisation of the program by the Global Biolmaging team?**



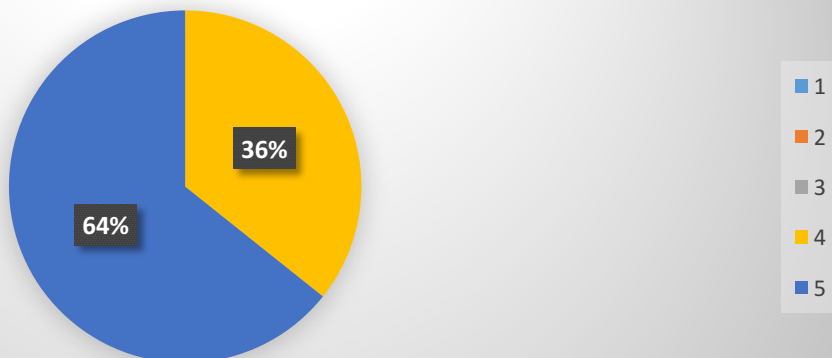
**Would you have some suggestions on how the program could be improved?**

*Citations from second call (all suggestions from first call dealt with the need for more information and support by the coordination team and this was fixed during the second call):*

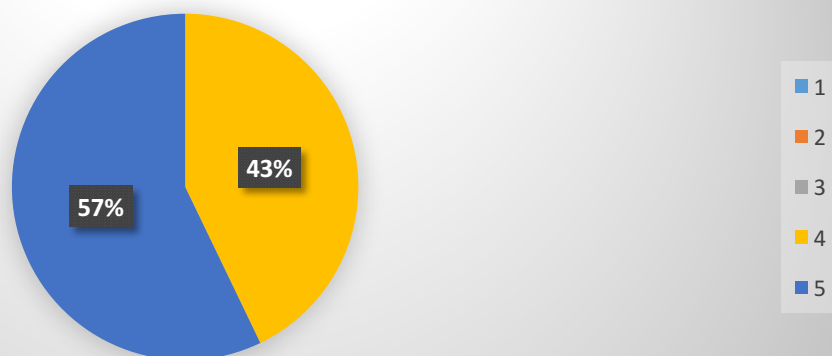
- Bilateral shadowing
- Some tools for a wrap up in the end of a shadowing period - a short form to be filled (like this feedback form) and to be a base for a discussion. This would also help a host to plan program and contents for a visit in advance too
- Maybe it would be also a good idea to combine more than one hosting core facilities in one visit, if geographically reasonable and helpful for the main aim
- To enable more in-depth exchange between facilities and foster closer collaborations it may therefore be helpful to structure the job shadowing program in to stages: In the first stage specific common research interests could be identified. This can either be done 'remotely' through initial discussions and email contact or through a first 'overview visit' of relatively short duration (a few days up to a week) (possibly sponsored by GBI). This stage then concludes with a small report (or possible application for the second stage, see below) identifying common research interests. The specific common research interest or topic identified in this first stage could then lead to a more in-depth visit that includes more 'hands-on' training and/or collaboration research exchange with the previously identified expert group within the hosting facility. (possibly sponsored by GBI through a second application)

**Hosts.**

**How positive do you evaluate the job shadowing program?**



**Did the experience fit your expectations?**



**Has this job shadowing been useful for your facility?**

93% Yes

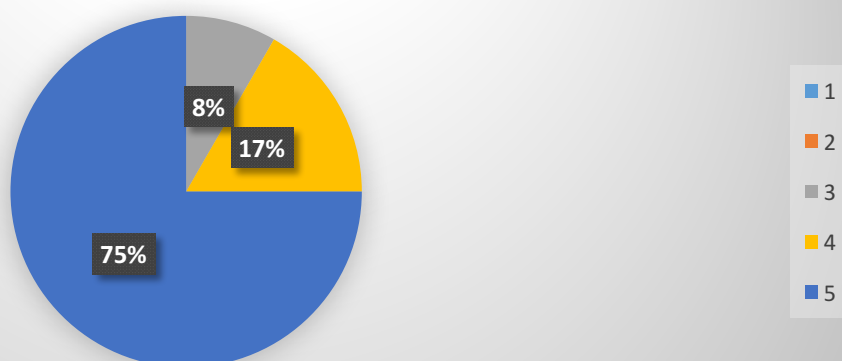
7% No

**Citations:**

- Yes. It has provided (i) the opportunity to learn how similar issues are dealt with by other nodes; and (ii) independent feedback about the strengths and weaknesses of our facility
- Yes we were able to exchange lab management practices.
- Yes exchange of practises was very useful.
- Suggestions to improve QA and other management issues More detailed discussion and exchange of knowledge for some research projects
- Yes, learned on how they organize access, software, and courses

- Yes, important connections have been created and future plans for collaboration between the facility of the visitor and our own, are undergoing
- Yes, there were quite few quality control parameters we have picked from this shadowing program.
- Yes, the discussion with our visitor stimulated or personnel to think about how we operate and how to improve things. Our visitor gave us nice ideas and we expect that the interaction will continue in the future.
- yes, the exchange was mutual comparing facility management and exchanging technical protocols between visiting scientist and our staff
- Good connection with the visitor and improved understanding of operations in his facility. Likely that some of our staff might visit his facility in the future
- We greatly enjoyed hosting the visit. There was a lot of discussion and exchange of ideas and information on areas of common interest such as user training, instrument operation, infrastructure acquisitions, access charges, etc. Guest's home facility operates in a very different way to ours so it was very interesting to exchange ideas and experiences on these different approaches to running a core facility
- Yes, exchange of al kinds of research topics, interesting to hear/learn more from other facilities
- We met an other core facility manager who had other practices, we discussed a lot about technologies and I organized 4 visites with specialists and amazingly we found a common subject about microscopy of sponges and corals which are of interest for us currently. We will continue to exchange our microscopy knowledge on this new kind of models

**Were you satisfied on communication and organisation of the program by the Global Biolmaging team?**



**Did you encounter any issues during the visit?**

21 % Yes  
79 % No

*Citations:*

- Organization quite demanding

- Longer period would be needed
- Yes, all the PI's invested a lot of time, wondering what the gain is. It is a lot of work but it is all optional, no guarantees for further collaboration.

**Would you have some suggestions on how the program could be improved?**

*Citations from second call (all suggestions from first call dealt with the need for more information and support by the coordination team and this was fixed during the second call):*

- The program is very good in giving participants insight into operations in core facilities in other locations. I suspect that, on balance, this is more beneficial to the visitor than to the host\*
- Shadowing possibilities should be extended outside Europe, India and Australia. More countries should join and perhaps do full exchange jobs where the visitor and the host switch roles and the visit takes place at the other end
- Two weeks is quite short for a visit where someone travels half way around the world. A slightly longer visit could have been beneficial as the visitor would have had more time to get over jet lag and adjust to their new surroundings. We packed an awful lot into two weeks

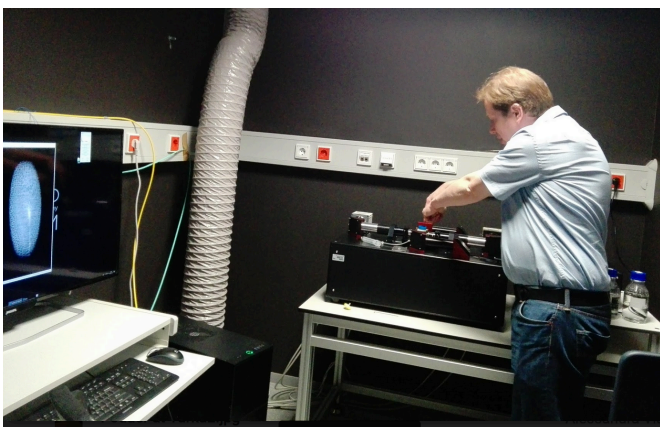
\*This is actually the purpose of the program



### Annex 3: Highlights from the GBI Shadowing program



**Andreas Brech** (Oslo University Hospital) Shadowing visit to Centre for Advanced Microscopy (CAM) at Australian National University, Canberra.



**Uttara Chakraborty** (Indian Institute of Science, Bangalore) Shadowing visit to EMBL, Heidelberg.



**Santosh Podder** (Microscopy Facility, IISER Pune, India) Shadowing visit to Finnish Advanced Light Microscopy Euro-Biolmaging Node.

Video interview: [https://www.youtube.com/watch?v=IJ7qFfu\\_7zM&t=1s](https://www.youtube.com/watch?v=IJ7qFfu_7zM&t=1s)

**Andrew Mehnert** (University of Western Australia, Perth) Shadowing visit to Finnish Advanced Light Microscopy Euro-Biolmaging Node.

Video interview: <https://www.youtube.com/watch?v=zT602KxiWm8>