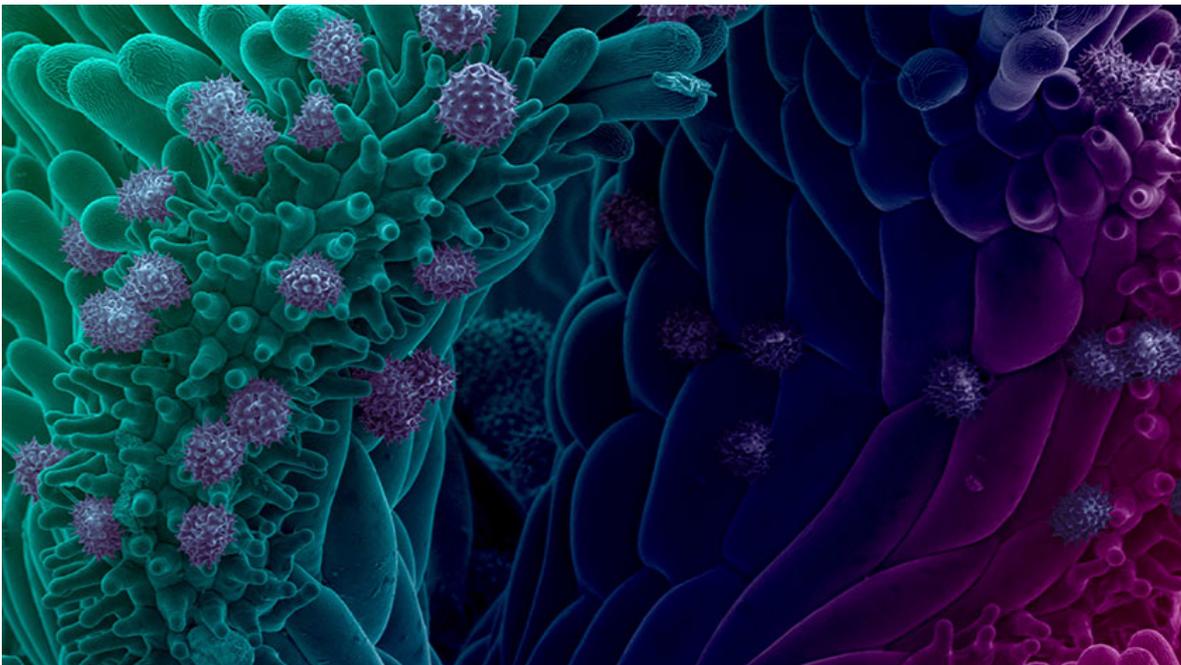


Global network of research infrastructures promotes bioimaging technologies

Advanced imaging technologies are revolutionising biological and biomedical science. An EU-funded project enabled researchers worldwide to better access cutting-edge biological and medical imaging technologies, to accelerate the great societal benefits this technological revolution will provide.



© Daniel Gütl, 2017

Powerful new imaging technologies, such as super-resolution and cryo-electron microscopy, are enabling researchers to visualise and measure molecular and cellular functions with unprecedented precision. Open access research infrastructures could address political, scientific, technical and data challenges at a global level to facilitate advances in the biomedical and biological sciences.

The EU-funded GLOBAL BIOIMAGING (GBI) project has enabled imaging facilities to exchange best practices and technological advances, and communities worldwide to better access the latest biological and medical imaging technologies. This was achieved by connecting them in an international network coordinated by Euro-BioImaging – the European Research Infrastructure for biological and biomedical imaging.

'GLOBAL BIOIMAGING has brought together imaging facility managers, technical staff, scientists and science policy officers to build capacity internationally,' says project coordinator Antje Keppler of the European Molecular Biology Laboratory (EMBL) in Germany. 'It provides a unique opportunity for international discussion and cooperation to tackle the practical challenges as well as the strategic questions linked to the operation of open research infrastructures for cutting-edge imaging technologies in the life sciences.'

The project has greatly strengthened international cooperation and capacity through international 'exchange of experience' workshops, meetings focused on specific topics,

training to support professional development, and exchange programmes ('job shadowing') for imaging facility staff.

International recognition

When it started in December 2015, the project involved Euro-BioImaging and two international partners: Australia and India. Three years later, this has grown to 10, including Argentina, Canada, Japan, Mexico, Singapore, South Africa and the USA. Collaboration amongst all the partners has continued to strengthen over time.

'Currently, four collaboration agreements exist. They formalise the cooperation between Euro-BioImaging and two Australian national infrastructures, India-BioImaging and Japan's ABiS (Advanced Bioimaging Support). Further agreements are in the pipeline, at different stages of preparation,' says GBI project manager Federica Paina (EMBL).

In this way, the project is reinforcing the position of Euro-BioImaging on the global research landscape, and creating a sustainable international network of bioimaging facilities and communities.

GBI has supported national initiatives and built a strong case for infrastructure funding, which contributed to the foundation of Japan's ABiS and Singapore's Singascope. The project has also inspired a more informal network called BioImaging North America which promotes cooperation in imaging facilities in and between Canada, Mexico and the USA.

'The socio-economic benefits of the GBI project are strongly related to the key role played by imaging technologies in modern biology and medicine,' explains Paina. 'These technologies have been awarded two Nobel Prizes in the past five years and, thanks to them, scientists can literally see processes in live organisms happening, with a precision never reached before.'

These technologies are enabling advances in the fight against cancer, infectious diseases, and genetic disorders. Ultimately, this could improve our health across longer lifespans. Imaging science also provides key insights into plant biology and marine ecosystem, which could help us adapt to climate change and ensure we have enough food for everyone on the planet.

'These are challenges faced by modern society globally – they cannot be restricted to national boundaries,' explains Paina. 'GLOBAL BIOIMAGING allows the scientific community to address these challenges faster and better.'

Imagining the future

The project consortium collated the experience gained in four international recommendations on physical open access to imaging infrastructures, training, quality management and data management.

GBI is ongoing beyond the H2020 project funding as an international network of imaging infrastructures and communities. It has launched a new website (globalbioimaging.org) to provide an online platform for the GBI network, planned further international workshops and thematic working groups, and is continuing with the staff exchange programme.

'To sum up, the H2020-funded GBI grant award is the first stepping stone towards building a sustainable international network of imaging infrastructures and communities,' says Keppler.

Project details

- Project acronym: **Global BioImaging**
- Participants: **Germany (Coordinator)**, Finland, UK, Italy, France, Netherlands, Spain
- Project N°: 653493
- Total costs: € 1 780 585
- EU contribution: € 1 780 585
- Duration: December 2015 to November 2018

See also

Project website: <https://www.globalbioimaging.org/>

Project details:

https://cordis.europa.eu/project/rcn/198649_en.html

View the article online:

http://ec.europa.eu/research/infocentre/article_en.cfm?artid=49826

© European Union, 2018