Euro-BioImaging

European Research Infrastructure for Imaging Technologies in Biological and Biomedical Sciences

AARC/CORBEL workshop for BMS AAI

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A Revolution in Bioimaging Technologies

- Genomes
- Nucleotides
- Transcripts
- Proteins
- Complexes
- Pathways
- Small molecules
- Structures
- Domains
- Cells
- Tissues and organs
- Biobanks
- Therapies
- Human populations
- Disease prevention
- Early Diagnosis

No Access!
Participate in the Revolution in Bioimaging Technologies

Open Access!
Mission & Scope

Biological Imaging

Service in imaging technologies
Sharing expertise & best practice
Innovation in imaging technologies
Networking of imaging facilities in Europe

Medical Imaging

Access to imaging technologies
Coordinated training programs
Data storage & analysis
Ratified EuBI Nodes

Start of Interim Operation in May 2016

At 28 Nodes in 10 European countries and EMBL
**Web Access Portal (WAP)**

**Features:**
- Submission and review process of access applications
- Access portal to image data repository, processing tools and cloud services
- Management of training activities
- Management of quality control
- Multi-level online communication platform
- Tools for identifying and assessing new imaging technologies
- Tools for real-time data collection of all EuBI activities
The WAP...

...is a dynamic web service, a single entry point to all EuBI online services - not a web site and not just a “list of links”

...handles all levels of the user access procedure

... is an access portal also to the image data repository, image data processing tools and workflows, and cloud services
WAP building blocks (~independent modules)

1. Location & technology finder
   - 1a. Normal
   - 1b. Wizard

2. Application submission
   - 2a. 1st review
   - 2b. 2nd review

3. Feedback (user, node, reviewer, hub)
   - 3a. Publication reporting
   - 3b. Feedback (user, provider, hub)
   - 3c. Feedback (proposer, POC studies, user etc.)

4. IRP interface

5. IDR interface

6. Training finder

7. Training application submission

8. New technology proposal submission (user /developer/node)

9. Evaluation & POC studies
   - 9a. Final evaluation

10. Communication (various forums)

11. Instrument quality control

12. Reports (queries for status and statistics reports for different staff members)

WAP database (all building blocks interface with this)
- Nodes services and technical details
- Reviewer lists with keywords
- User application storage
- Course data and application storage
- QA report storage
- Communications storage
- Reports storage
- New technology materials storage

Databases at nodes
- Node services and technical details
- Training details
- Scheduling services
- Management etc. at Nodes

IRP database

IDR database
Linking together WAP, IDR, IRP

- IDR (Image Data Repository) and IRP (Image Resource Portal) databases can contain tags for both EuBI (e.g. project number, node, technology) and each other (e.g. software components, workflows, data type)
- WAP can query these tags, and IDR and IRP can return direct links to the data/resource in question
- Collaboration between EuBI, **Global BioImaging** and **NEUBIAS** (Network of European bioimage analysts) very important, because of overlaps and synergies
Interim Web Access Portal
*A simplified version of the upcoming “final” web access portal

- IRP (Image Resource Portal)
  - IRP interface
  - IRP database
- WAP database (nodes, applications, surveys, statistics…)
- Users
  - Application submission
  - Locations and technologies
  - Review of applications
  - Feedback surveys (users, nodes, reviewers)
  - Other surveys (e.g. training)
  - Survey Monkey, with HIPAA compliance and BAA agreement*
- Nodes staff
  - IDR (Image Data Repository)
  - IDR database
- Hub staff
- Reviewers
  - Weebly used for development, .eu domain name

*Health Insurance Portability and Accountability Act, for Protected Health Information, with a Business Associate Agreement
• WAP relational database(s) will be built with Microsoft SQL server, containing tables such as Nodes, Locations, Technologies, Reviewers, Applications, and many more

• These tables will include vocabulary compatible with ontologies used e.g. in Image Data Repository (IDR) and Image Resource Portal (IRP)

• Front-end WAP application will be developed using C# on .NET platform, compatible with Microsoft SQL server

• Reporting services are planned to be developed using SQL Server Reporting Services (SSRS)
Database sample screen shot:
User access needs

- Users
- Nodes
- External reviewers
- Hub

Users will be both in and outside Europe, from both academia and industry

Identification should be based on personal IDs, not company/institution IDs

Tight development schedule