ELIXIR

Safeguarding the results of life science research in Europe

www.elixir-europe.org
ELIXIR: European infrastructure for biological information

Data infrastructure for Europe’s life-science research:

- Data
- Interoperability
- Tools
- Compute
- Training

Marine metagenomics
Crop and forest plants
Human data
Rare diseases

ELIXIR Hub based alongside EMBL-EBI in Hinxton

• 20 Members
• 1 Observer

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@ELIXIREurope
ELIXIR Membership

ELIXIR Members
- Belgium
- Czech Republic
- Denmark
- EMBL
- Estonia
- Finland
- France
- Germany
- Ireland
- Italy
- Israel
- Luxembourg
- Netherlands
- Norway
- Portugal
- Slovenia
- Spain
- Sweden
- Switzerland
- United Kingdom

ELIXIR Observers
- Greece
ELIXIR Structure

Five technical platforms for Compute, Data, Tools and Interoperability

Complemented by four use cases for marine metagenomics, rare diseases, human data and plants sciences
ELIXIR Services

Data deposition:
ENA, EGA, PDBe, EuropePMC, ...

Data management:
Genome annotation
Data management plans

Added value data:
UniProt, Ensembl, OrphaNet, ...

Data Interoperability:
Standards, Identifiers, Ontologies

Compute:
Secure data transfer, cloud computing, AAI

Bioinformatics tools:
Bio.tools

Industry:
Innovation and SME programme
Bespoke collaborations

Training:
TeSS, Data Carpentry, eLearning
ELIXIR and BD2K (US)

- Need to establish partnerships w. BD2K centres (DDI, Training, “Centres Coordination Centre”)
- ELIXIR partner institute PI are co-PI on BD2K grants
  - BioCADDIE (meta-data and data discovery index) - S. Sansone, Oxford
  - CEDAR (metadata authoring) - S. Sansone, Oxford
  - HeartBD2K (proteomics) – H. Hermjakob, EBI
- BD2K “the Commons” very relevant for ELIXIR
  - Digital object identifiers – Interoperability platform: Standards and associated services/methods
  - Dataset distribution – access to reference datasets in commercial clouds
- Synergies within Training programmes
- Partnering on discovery data on the web - Bioschemas.org

http://bd2k.nih.gov
Interoperability: Integration of data and services

• Mission: Implement principles for **Findable, Accessible, Interoperable and Reusable** Data

• Goals:
  • Deliver interoperability services for ELIXIR Use Cases
  • Promote interoperability best practices

• Activities:
  • **Bring Your Own Data (BYOD)** Workshops
  • Technical services to ensure that data is interoperable, can be accessed programmatically, and contain persistent identifiers
  • **BioSharing** standards registry
  • Bioschemas.org
  • Implementing **FAIR data points** and **FAIRports** (datafairport.org)

• Collaboration with CORBEL, RDA, Google, Force11 and BD2K