



Support for Data Resources in the Biosciences

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Bioinformatics and Biological Resources Fund (BBR)

Purpose: *'to provide proper support for resources such as databases, genetic resources and culture collections which require long term maintenance and curation'*

This support includes:

- high quality bioinformatics and biological resources
- establishment, maintenance and enhancement
 - *Establishment and maintenance of a new resource*
 - *Maturation and subsequent maintenance of a project-based resource into a community-based one*
 - *Development and subsequent maintenance of an existing community resource to increase its relevance to a broader user group*
 - *Interfacing and integrating resources to better meet user need*
- longer-term funding and a (relatively) stable environment for resource development and provision

Bioinformatics and Biological Resources Fund (BBR)

- Annual call since 2007, budget ~£6M pa, ~85 projects
- Wide range of underpinning and strategic resources supported, including UK participation in international projects
 - *Must have broad community support and user-base*
 - *Must be an 'active' resource*
 - *Renewals allowed: tension between new vs renewals*
 - *Community decides*
- Key role in enabling community data sharing efforts and supporting BBSRC's data sharing policy
- Broad impacts including highly cited publications
- Highly regarded by the research community and highlighted twice in Nature “*as a good funding model for development and sustainability of resources and informatics tools.*”

BBR Fund projects: 2007-2014

BioGRID database
 Macrophage web-based resource
 GridQTL+ genetic analysis
 Roslin TSE resource centre
 BioLayout Express 3D
 Ensembl: farmed animal species*
 SPRINT for network biology
 NGS pipeline and visualization
 Lepidoptera genome resource
 PhenImageShare

FlyAtlas*

Web Services catalogue
 miRBase for microRNAs*
 COPASI: biochemical network modelling

Quantitative proteomics resource
 PROCESS proteomics

MicrobesNG

Enterobase
 QuimP: cellular morphodynamics

Plant systems biology modelling

ISA data sharing infrastructure
 Variant calling for NGS

CerealsDB*
 Wheat functional genomics resource
 SUPERFAMILY protein domain database
 ARIES epigenomics resource

Mycosphaerella functional genomics toolkit

Xenopus
 Resource

IPD-MHC livestock
 database

CARMEN e-science
 portal

Arabidopsis.info

Jalview sequence analysis*
 Image processing resource
 Dundee protein structure resource
 OME/OMERO

Wheat transformation resource
 RNAcentral ncRNA database
 Biomodels database*
 Interpro and Pfam*
 ChEBI*
 EMBOSS
 Electron Microscopy Data Bank
 VBO: Vertebrate Anatomy Ontologies
 Metabolights for metabolomics*
 Phytopath: phytopathogen genomics*
 Global metagenomics portal*
 Wormbase ParaSite
 Proteogenomics
 Molecular Interaction Data Standards
 SIFTS
 Wheat MAGIC platform

sRNA workbench*
 ComBase
 RevGenUK*
 COPO

Wheat TILLING Resource

SUGER Yeast 2.0 resource
 PHYRE: protein structure prediction*
 Protein circular dichroism resources*
 CATH: protein structure classification*
 PSIPRED: protein structure prediction*
 GENOME-3D: structure based annotation
 Yeast HHprY database

* more than one BBR award

International Funding for Resources:

Opportunities

- Value in international funding of data resources
 - *Many resources are international by their nature*
 - *Share expertise, resources, cost and risk*
- Can be achieved by bi- or multi-lateral funding agreements
- BBSRC has participated in many internationally funded programmes including
 - *Subscription models*
 - *Pro rata partnerships*
 - *'Lead agency' agreements*

International Funding for Resources: Challenges

- International agreements on mechanisms
- Size of user bases in individual countries
- Scientific priority differences
- Remit questions across funder organisations