

PhenoBridge: Linking mouse model to human clinical data using Diabetes and Obesity as a framework

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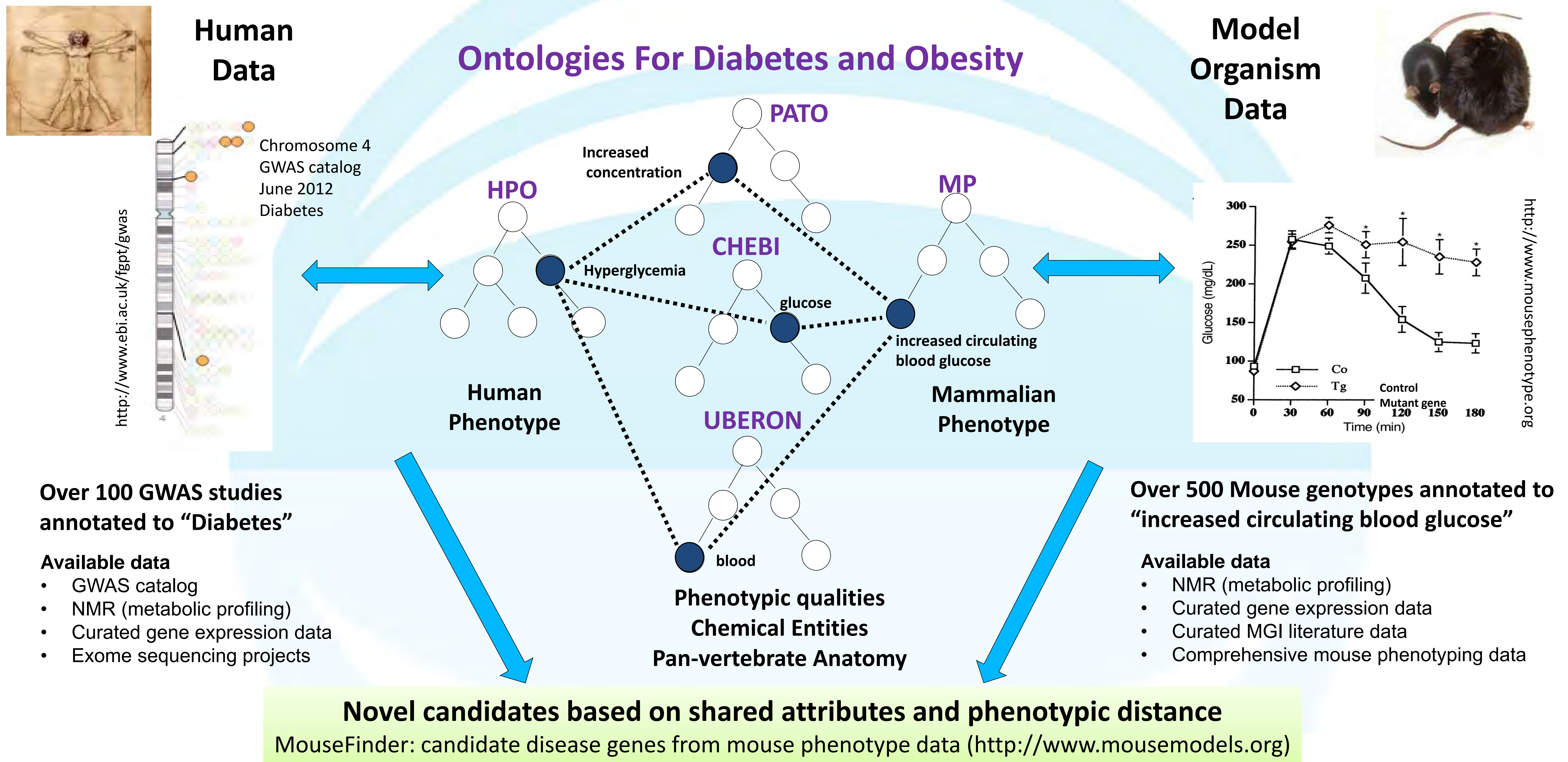
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Bridging the phenotype gap between mouse and human

Currently, data integration between mouse model and human studies is hindered by fundamental differences in the terminologies used by each respective community to describe the same phenotypes. **PhenoBridge** objectives are to develop common standards and ontologies to **bridge** the **phenotype** gap between **mouse** and **human** in order to open the use of extensive mouse phenotype data resources by clinical researchers.

PhenoBridge aims to:

- Identify and develop a set of annotations/terminologies
- Identify and group interacting parameters involved in the development of clinical and molecular phenotypes
- Work towards automation of phenotypic discovery and develop a related prototype service
- Apply these rules to a subset of mouse model and human studies to demonstrate the effectiveness of mouse model-human data integration



Over 100 GWAS studies annotated to "Diabetes"

- Available data
- GWAS catalog
 - NMR (metabolic profiling)
 - Curated gene expression data
 - Exome sequencing projects

Over 500 Mouse genotypes annotated to "increased circulating blood glucose"

- Available data
- NMR (metabolic profiling)
 - Curated gene expression data
 - Curated MGI literature data
 - Comprehensive mouse phenotyping data

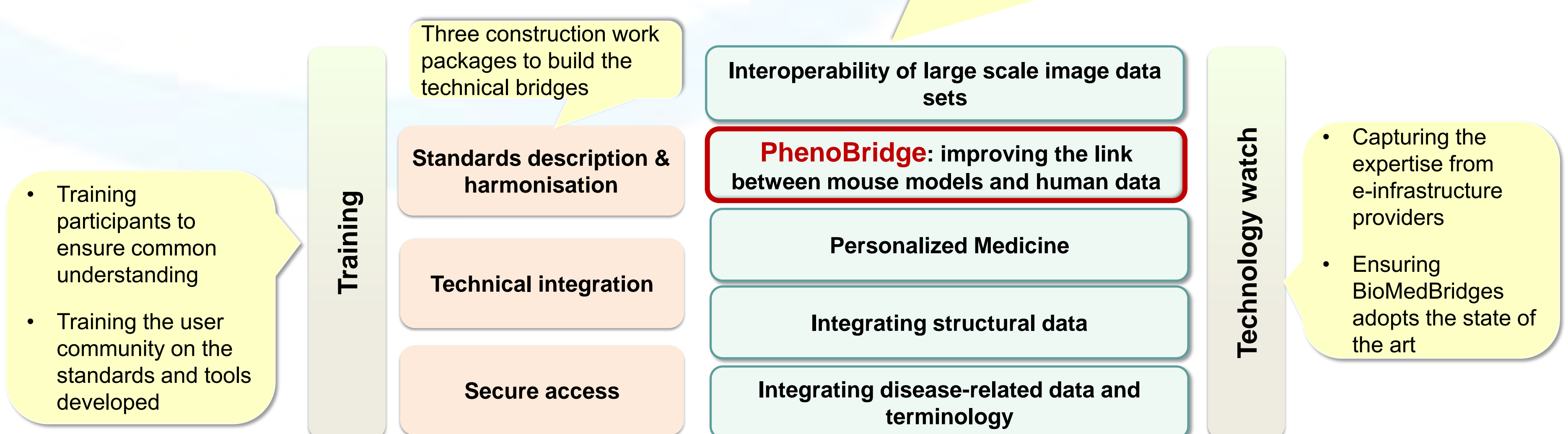
Novel candidates based on shared attributes and phenotypic distance

MouseFinder: candidate disease genes from mouse phenotype data (<http://www.mousemodels.org>)

- Novel disease candidate
- Novel pathways
- Novel detection assay
- Novel therapies

- PhenoBridge is one of the "use cases" of BioMedBridges, a joint effort of ten biomedical sciences research infrastructures on the roadmap of the European Strategy Forum for Research Infrastructures (ESFRI)
- The use cases will test the technical and data developments of the construction work packages
- Each use case focusses on a particular ESFRI Research Infrastructure

Five inter-related use cases



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Information about the BioMedBridges project:
www.biomedbridges.eu

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