

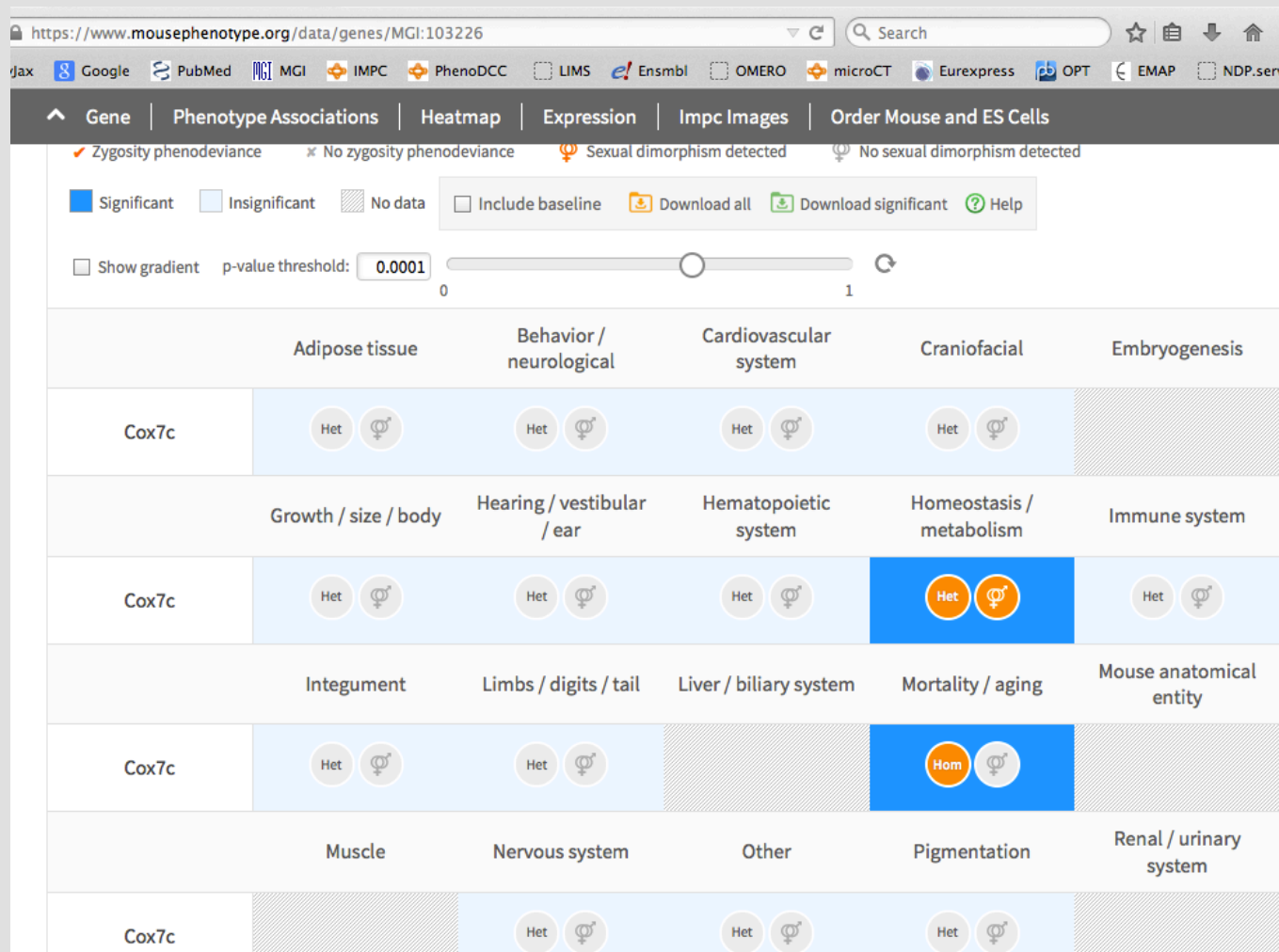
The Knockout Mouse Project, and Image Informatics:

The Information is in the Image

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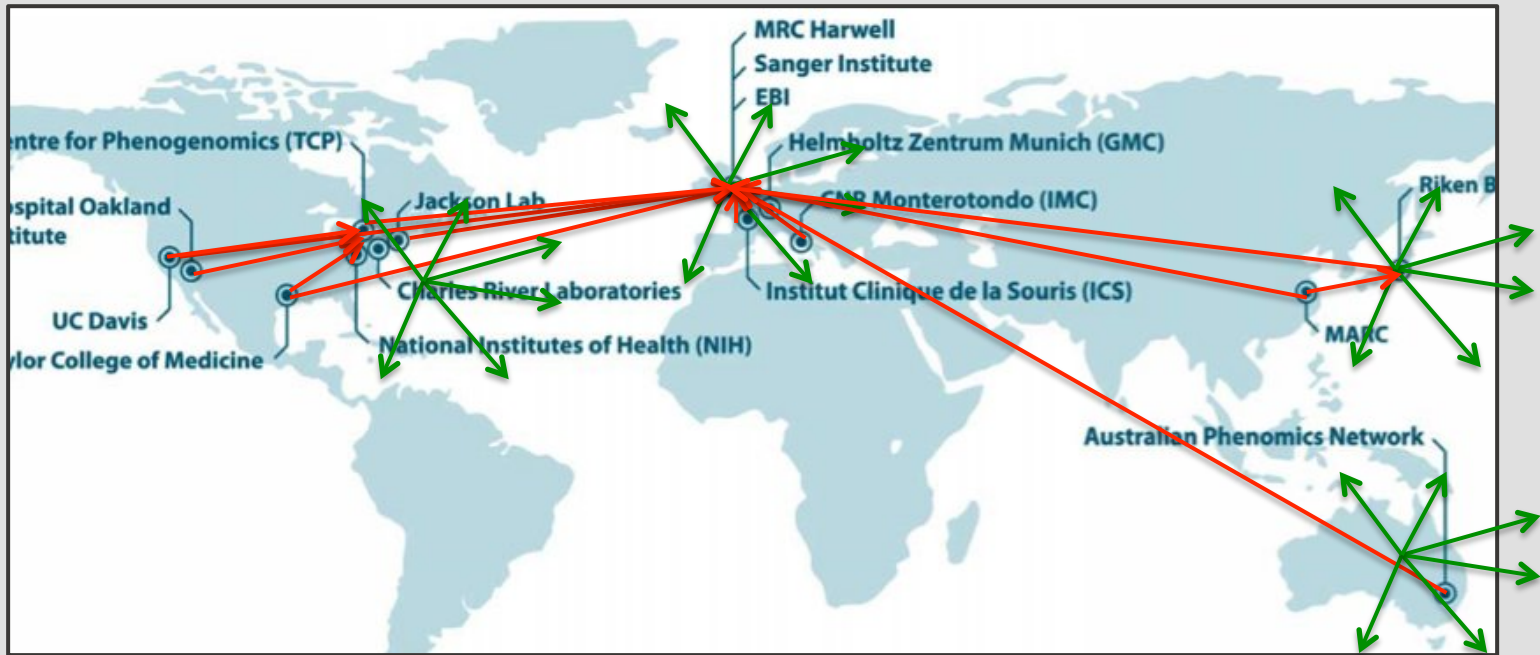
The Knockout Mouse Project (KOMP) is an international collaborative effort to make, and phenotype, a knockout mouse line for every gene in the genome.



Data for Cox7c adult heterozygotes



Much of the data are images, and this is an enormous amount of image data to transfer from each Center to the Data Coordination Center (DCC).



Are there advantages to hosting image data locally, or semi-locally, under the organizational umbrella of the DCC? The JAX is working with the DCC to pilot a “federated” OMERO server for JAX image data.

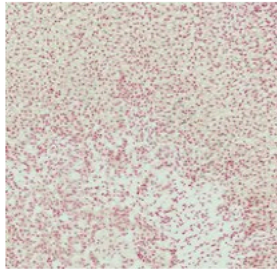


Annotation of images is currently manual.

Expression Data

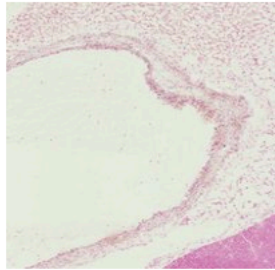


All Images



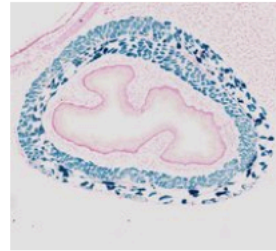
[anatomical structure\(20\)](#)

Adrenal expression



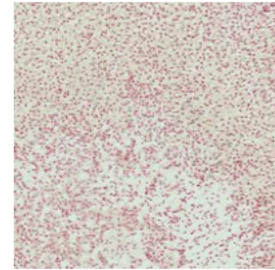
[cardiovascular system\(2\)](#)

Aorta expression



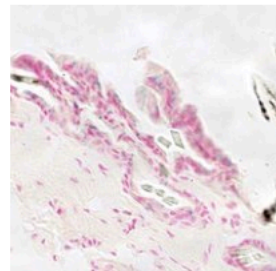
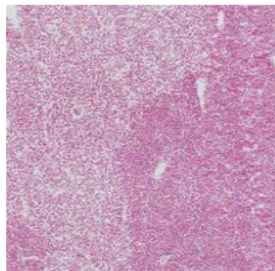
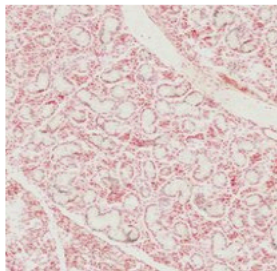
[digestive system\(7\)](#)

Esophagus expression



[endocrine system\(2\)](#)

Adrenal expression



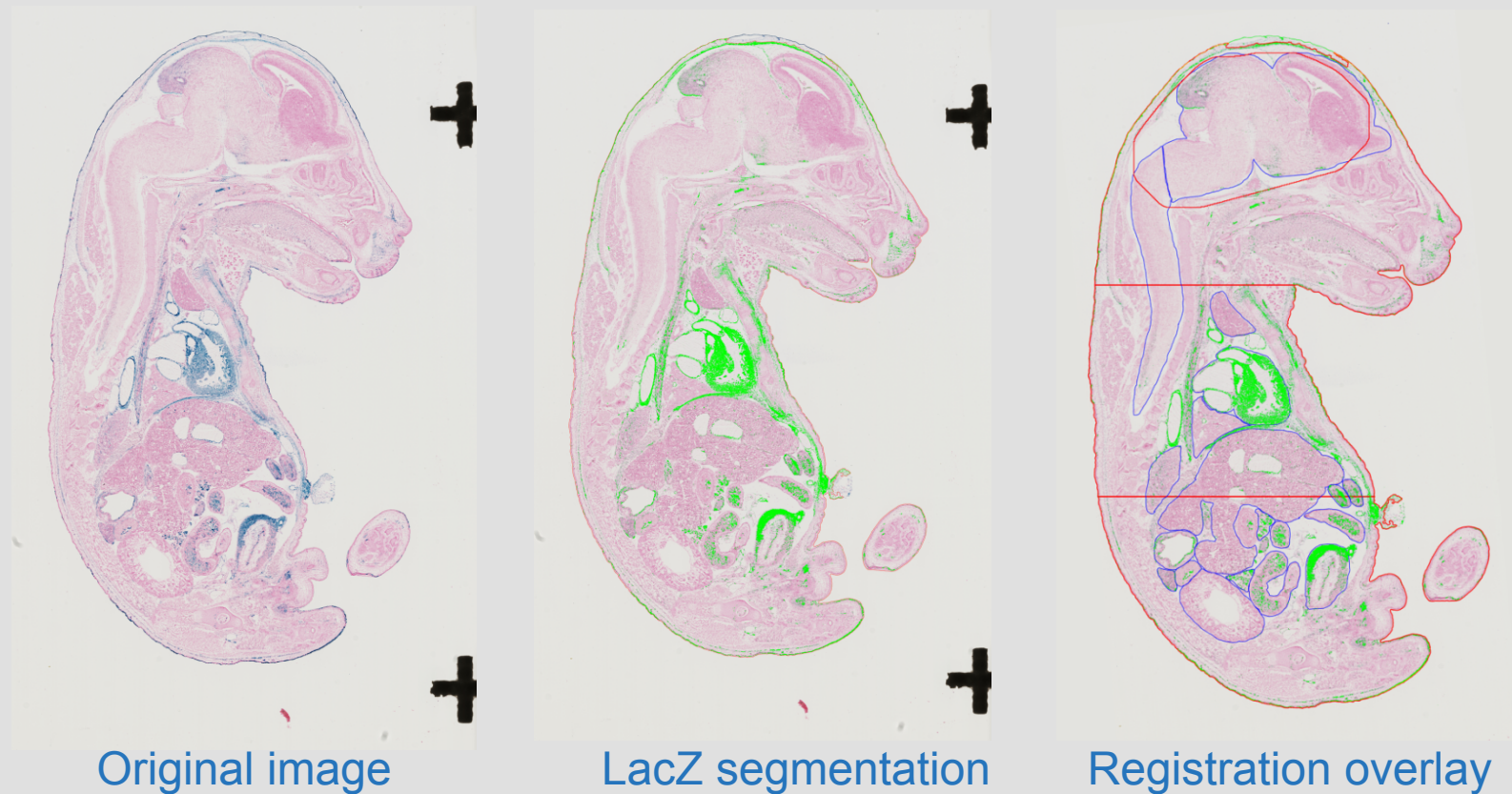
LacZ Image data, with thumbnails linking directly to complete digital slide on JAX server. Annotations of expression are manual. We are in the process of moving all these data to our OMERO server



Information Resides in the Image

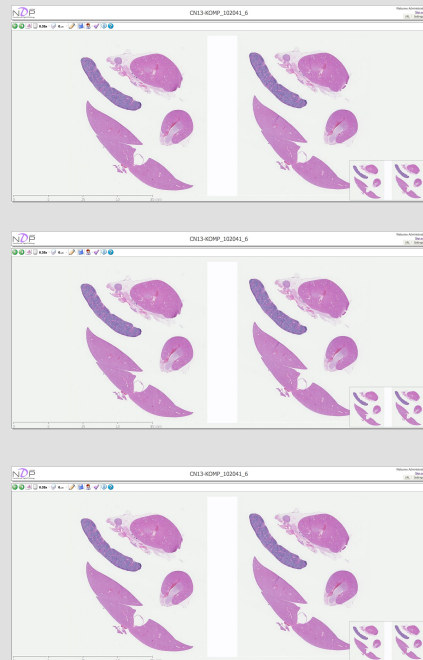
We want to read the information from the image directly, onboard in OMERO

Automated LacZ Detection and Quantification; algorithm by ImageIQ



Perhaps we can read more challenging features,
through feature recognition software.

WT data, read as a baseline



Algorithm will read 20,000 KO samples,
and identify those which are “different”.

