# Newsletter: Summer 2018

1. New 'Disease Pages' increase support for human disease modeling in Xenopus

To support **Disease modelling and disease gene studies**, Xenbase launched new '**Disease Pages'** for **DO** (Disease Ontology) diseases and genetically inherited disease from **OMIM (**the Online Mendelian Inheritance in Man).

The **DO Disease Pages** cover acquired diseases (e.g., metabolic and mental health disorders), diseases with environmental, infectious, or parasitic causes (e.g. sleeping sickness), developmental disorders (e.g., cleft palate), diseases that have uncharacterized genetic components (e.g., idiopathic scoliosis), as well as all OMIM diseases. As **the DO is an ontology**, we also have DO Disease Pages for broader, parent terms such as 'cancer', 'physical disorder', and 'immune system disease'.

- Xenbase will use the DO and OMIM to curate disease model research and phenotypes.
- **Disease Pages link out to Xenopus gene pages**, an ontology viewing service, and to human disease resources.
- Research articles that are tagged with a DO and/or OMIM term are on the **'Literature Tab'**.

- **To find a Disease Page**: Click Search Disease on the Anatomy Tile OR Use the **Quick Search menu** in top corner.

- In the Quick Search menu, select **'Disease Ontology** (below left) or **OMIM Diseases** search (below right). Type-ahead will match terms, or the ID number, for a disease. Mouse down to select a specific term or hit Search to return all matches.
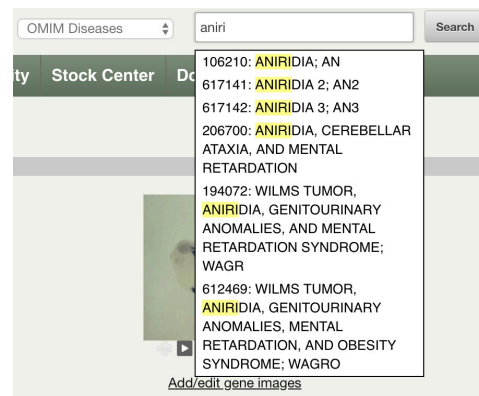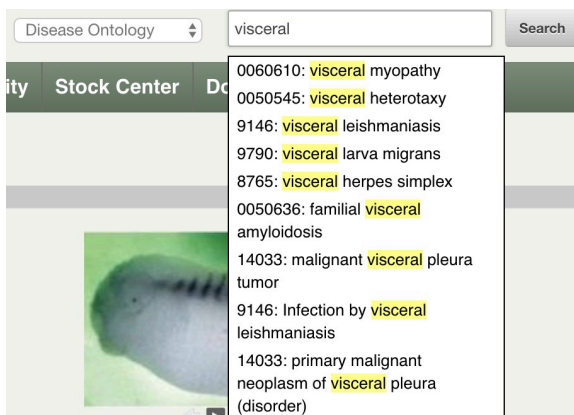
- **DO Disease Pages** (below left) give a definition and synonyms, have all the curated articles aggregated on **Literature tab**, list associated OMIMs, link to other model organism databases (including the AGR =Alliance of Genome Resources), and link to **Xenbase gene pages** as well as human disease resources, such as the DO website.
- **OMIM Disease Pages** (below right) link to **Xenbase gene pages**, to the **DO Disease Page**, OMIM and specific literature.

2. New Dynamic XAO Anatomy Trees, and updated XAO v6.0 now available for download.

The Xenopus Anatomy Ontology- aka the XAO -describes embryonic development in *Xenopus,* from egg to adult, in a hierarchy.

- Use the XAO v6.0 to your single cell RNA-Seq experiments. Download the latest XAO, v6.0 here:
  http://www.xenbase.org/other/static/ftpDatafiles.jsp#Anatomy

Our **new Anatomy Trees** visualize the 'is a' and, 'part of' relationship(s) (see example below for brain).

- Explore the XAO v6 Anatomy Trees via the Anatomy & Development menu/tiles, under the Search Anatomy Tab.
- Click blue nodes (with terms to left) to expand parts of the tree.
- Use Expand / Collapse Tree buttons to fully expand/collapse all nodes. Download the tree view in SVG format.
- Hint! Read tree from right to left: rhombomere R1, 'is a' rhombomere, is 'part of' the hindbrain, which is 'part of' the brain.
- Click underlined terms to open the specific XAO term page. 100's of terms now have illustrations + marker gene ISH images
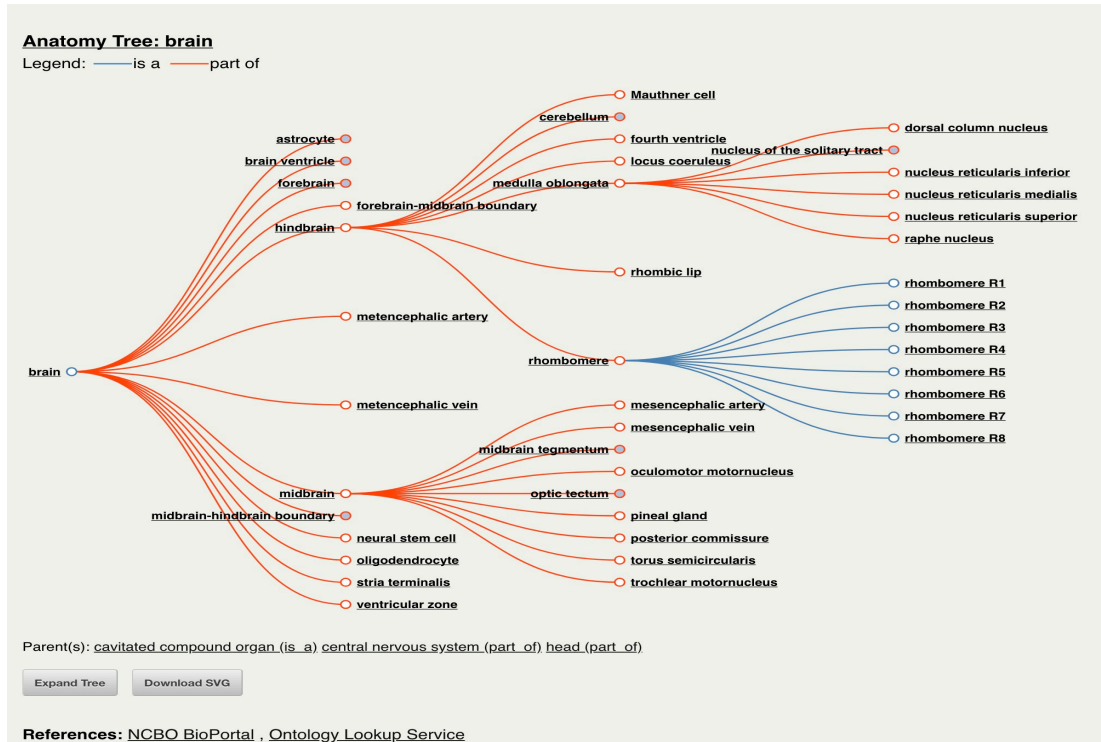
3. Download the data from X laevis RNA Seq graphs- new Save to CSV and Save to SVG buttons.

Save the **TPM values** for RNA Seq data as a **comma-separated values (CSV) file**, or the graph as **a Scalable Vector Graphic (SVG) file**.
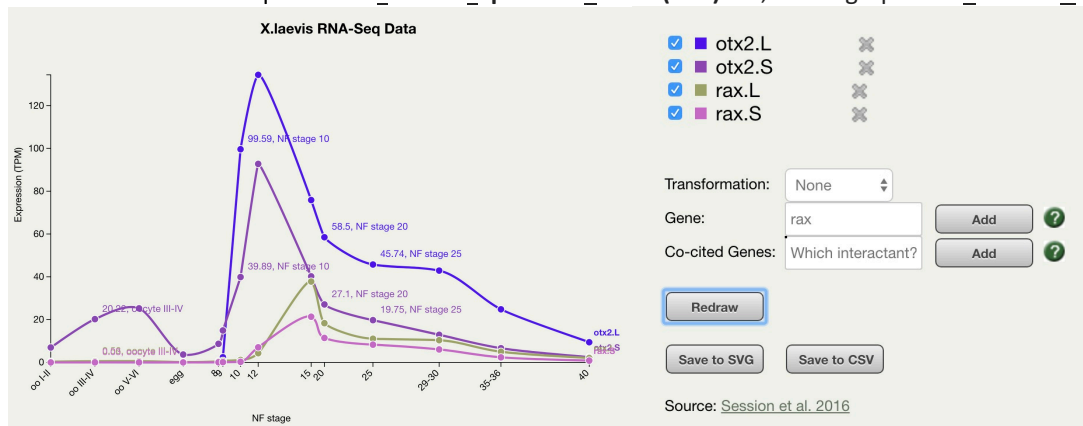
4. Xenbase v 4.9.2 launched June 2018. Contact us: xenbase@ucalgary.ca with comments or questions.

If Xenbase contributes to your research, **please cite our latest papers AND our RRID. C**itations will help us get our NIH funding!

- Karimi K. et al. (2018). **Nucleic Acids Res. 2018 Jan 4;46(D1):D861-D868**. doi: 10.1093/nar/gkx936. PMID: 29059324.
- James-Zorn C. et al. (2018) **Navigating Xenbase: An Integrated Xenopus Genomics and Gene Expression Database**. *In:* Kollmar M. (ed) Eukaryotic Genomic Databases. Methods in Molecular Biology, vol 1757. Humana Press, New York, NY. *Download it from here: doi.org/10.1007/978-1-4939-7737-6_10.*
- Xenbase (www.xenbase.org, RRID:SCR_003280).