

# The Comparative Pathology Workbench:

## An Integrated Web-based Tool for the interactive analysis of Visual Biomedical Data



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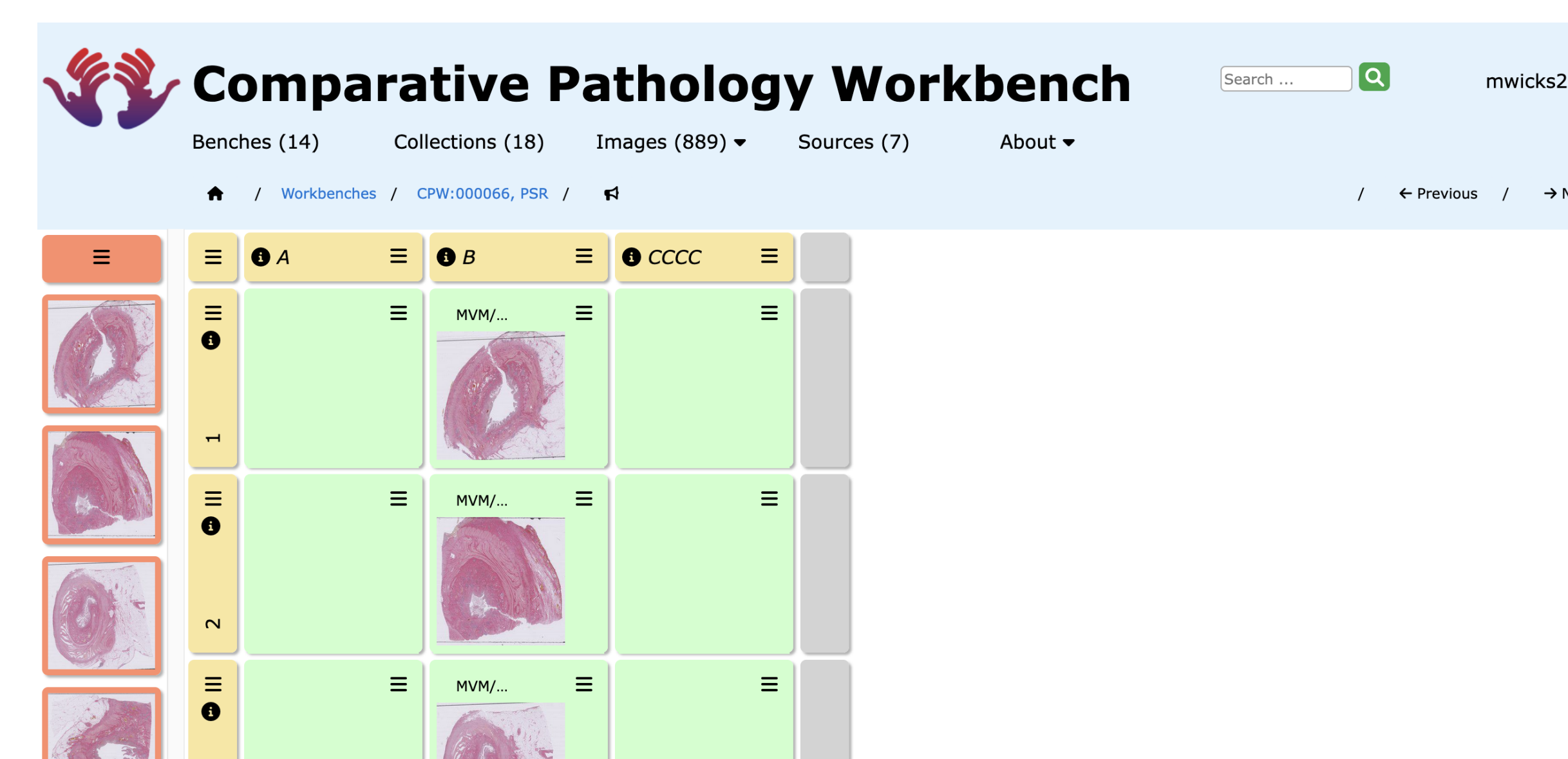
1. University of Edinburgh, 2. Heriot-Watt University, 3. Wellcome Sanger Institute, 4. NHS Lothian, 5. Earlham Institute, 6. Lyzeum Ltd

### Overview

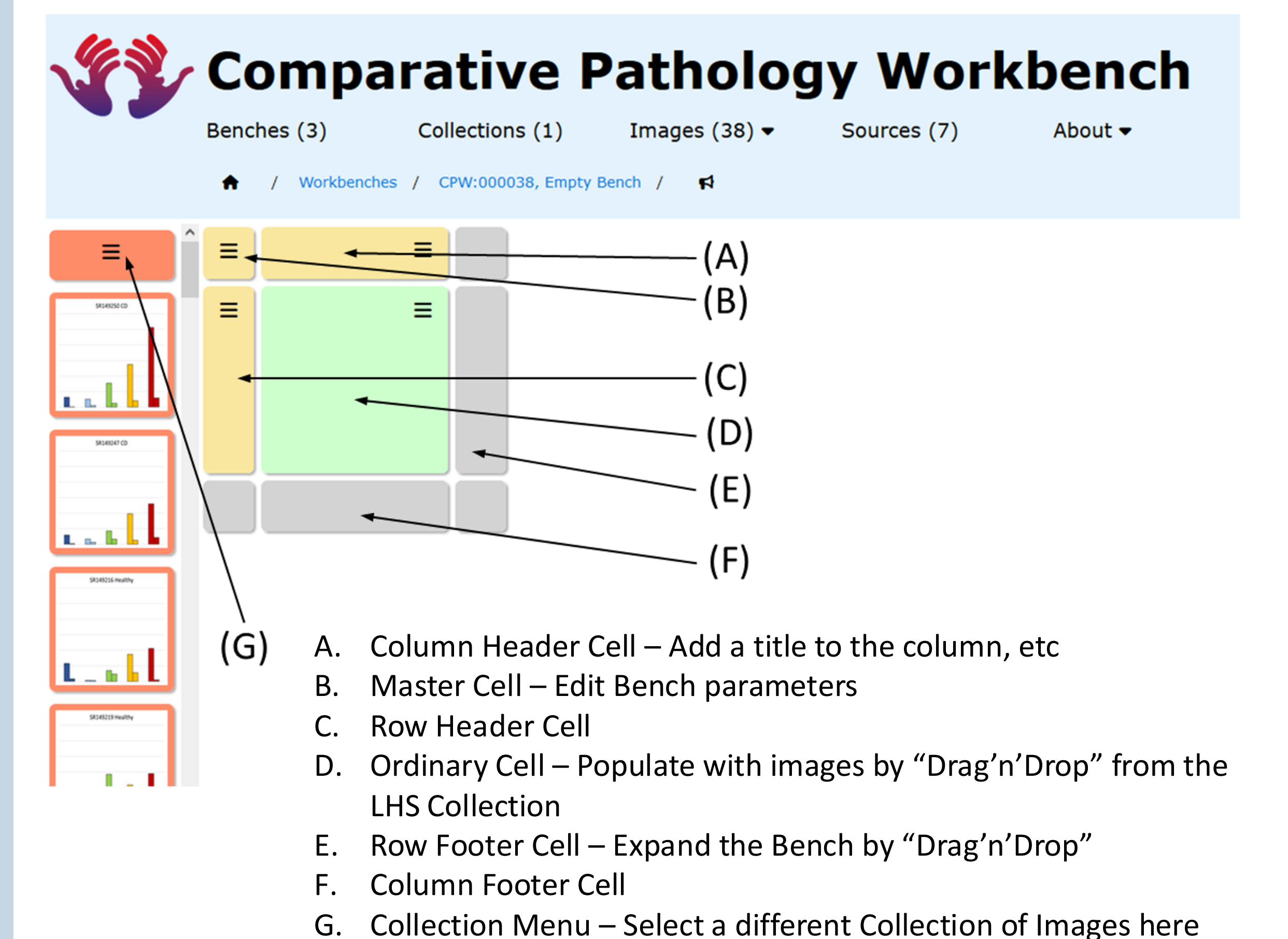
- A Tool to help Clinicians
- Overcomes the limitations of current practices
- Gather and Share Related Data into a Single Place
- Adds Meaningful Structure to Data
- Allows further Observation and Analysis.
- Web-based, secure, accessible worldwide
- An Image “Spreadsheet”
- Arrange Data in Cells in Rows & Columns
- Called a “Workbench” or “Bench”
- Easy Visualisation of any Imaging Data
- Enhance Understanding
- Share Observations, via managed discussion threads, at Cell, Column/Row and Bench Level
- Suitable for ANY image-based Application

### Populating a Workbench

- Create a Collection of Images
- Create Bench and select an Image Collection
- Drag’n’Drop from Image Collection to Cell
- OR Fill a Column or Row with an Entire Collection



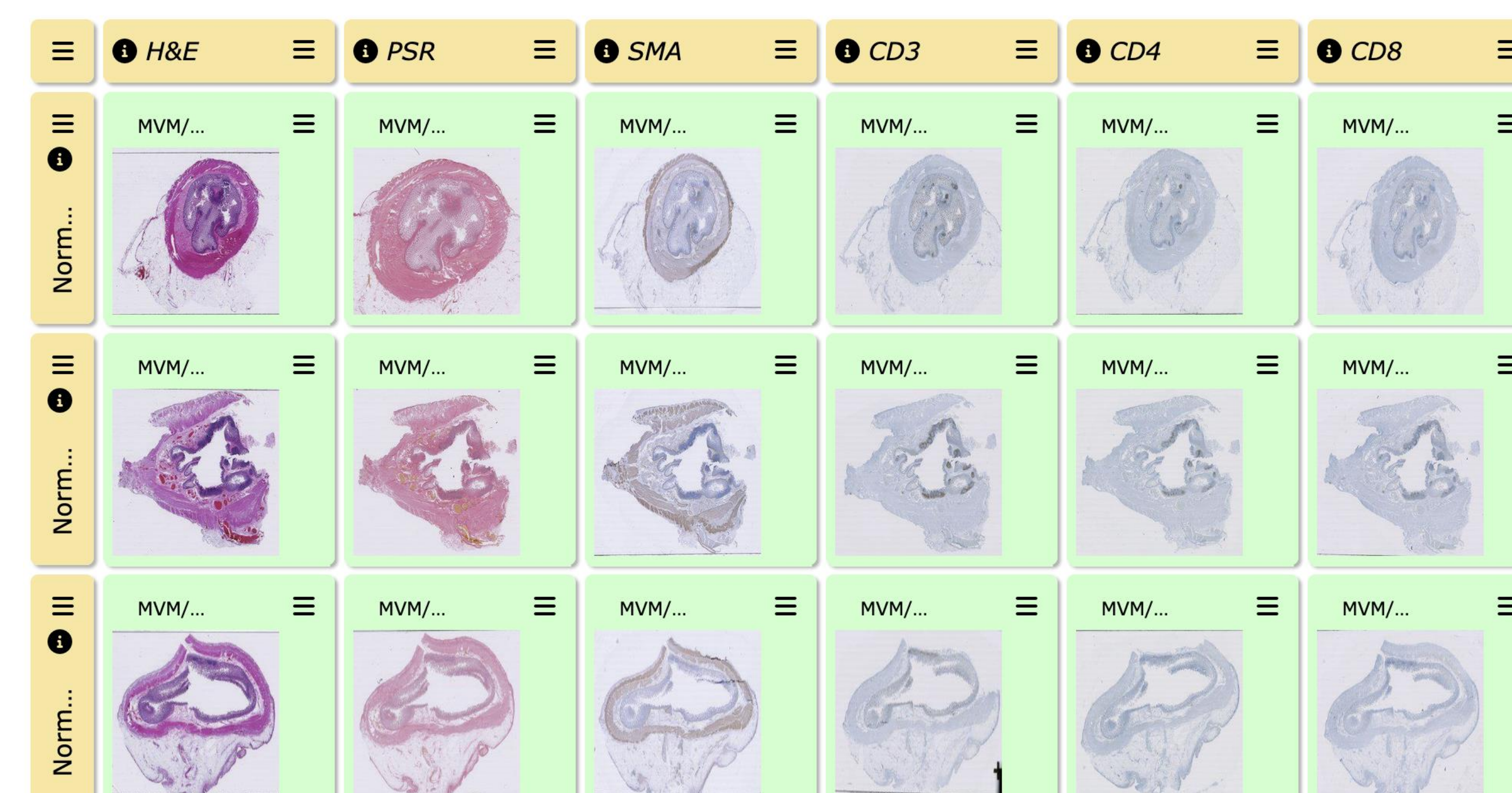
### Workbench Components



### An Example Workbench: Analysis of Crohn’s Lymphoid Aggregates in Crohn’s Fibrostenosis

- A Workbench comparing distribution of Crohn’s Lymphoid Aggregates in Crohn’s Fibrostenosis & Normal Ileum
- [https://workbench-czi-cpw.mvm.ed.ac.uk/public\\_matrix/69/](https://workbench-czi-cpw.mvm.ed.ac.uk/public_matrix/69/)
- Each Cell contains an Image (reference)
  - to a Histological Section
  - (stored on an OMERO Image Server)
- Each Row represents the Same Case
  - Normal or Crohn’s Disease
- Each Column represents the Same Stain
  - “PSR” - Picosirius Red for collagen,
  - “SMA” - Smooth Muscle Actin for muscle hyperplasia/hypertrophy,
  - “CD3/4/8” - immunohistochemistry for T lymphocytes

- 3 Rows of Normal Ileum (full wall thickness)



- 3 Rows of Crohn’s Fibrostenosis (full wall thickness)

