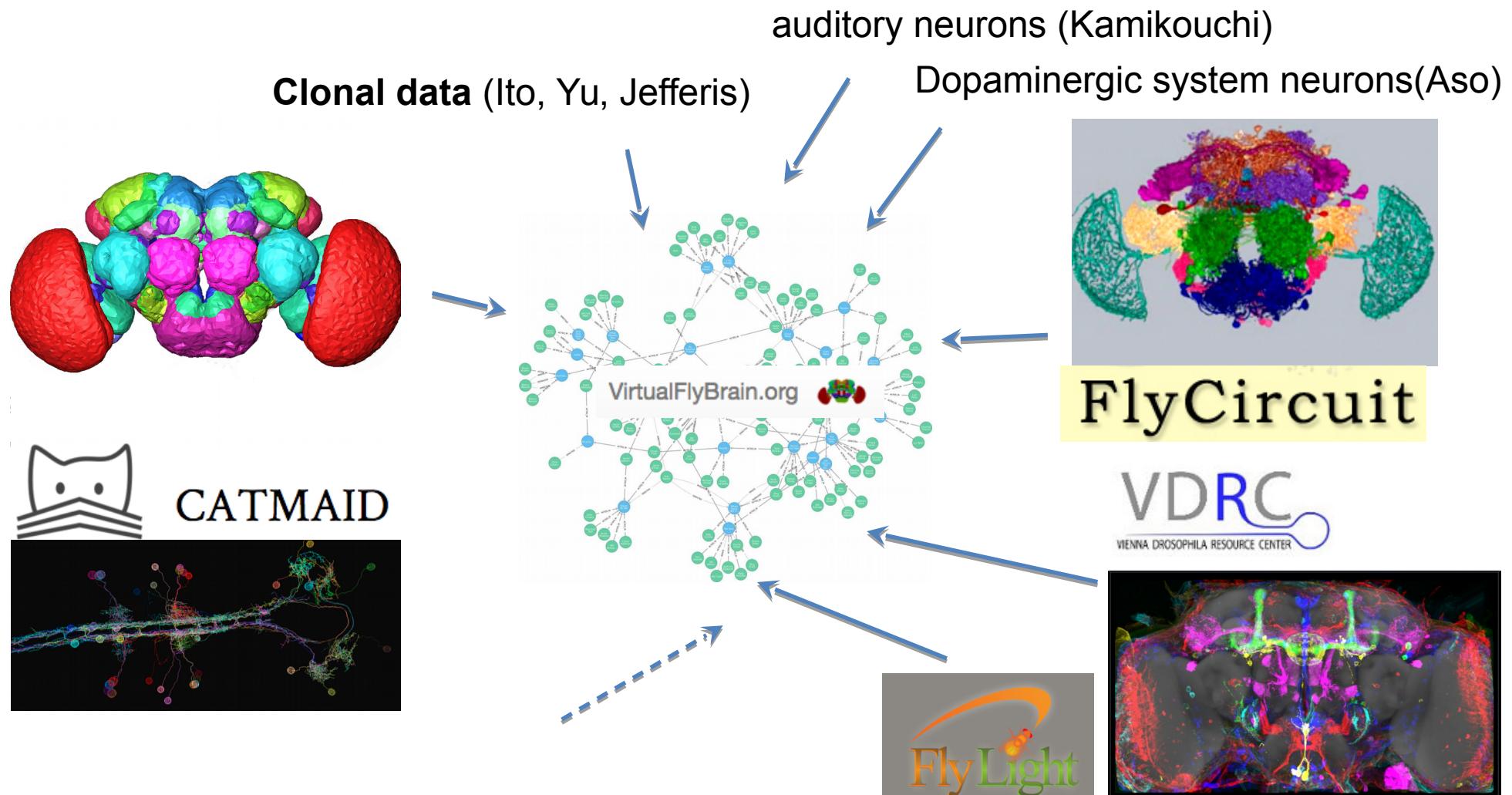


Virtual Fly Brain

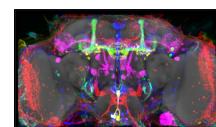
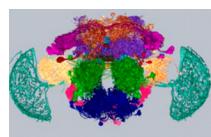
<https://www.virtualflybrain.org>

A data integration hub for *Drosophila* neurobiology, integrating disparate, large-scale datasets and linking them to curated literature and other resources. VFB provides the data to generate circuit hypotheses and identify research tools to test them.

Combining 3D Anatomy, Light & EM Image Data



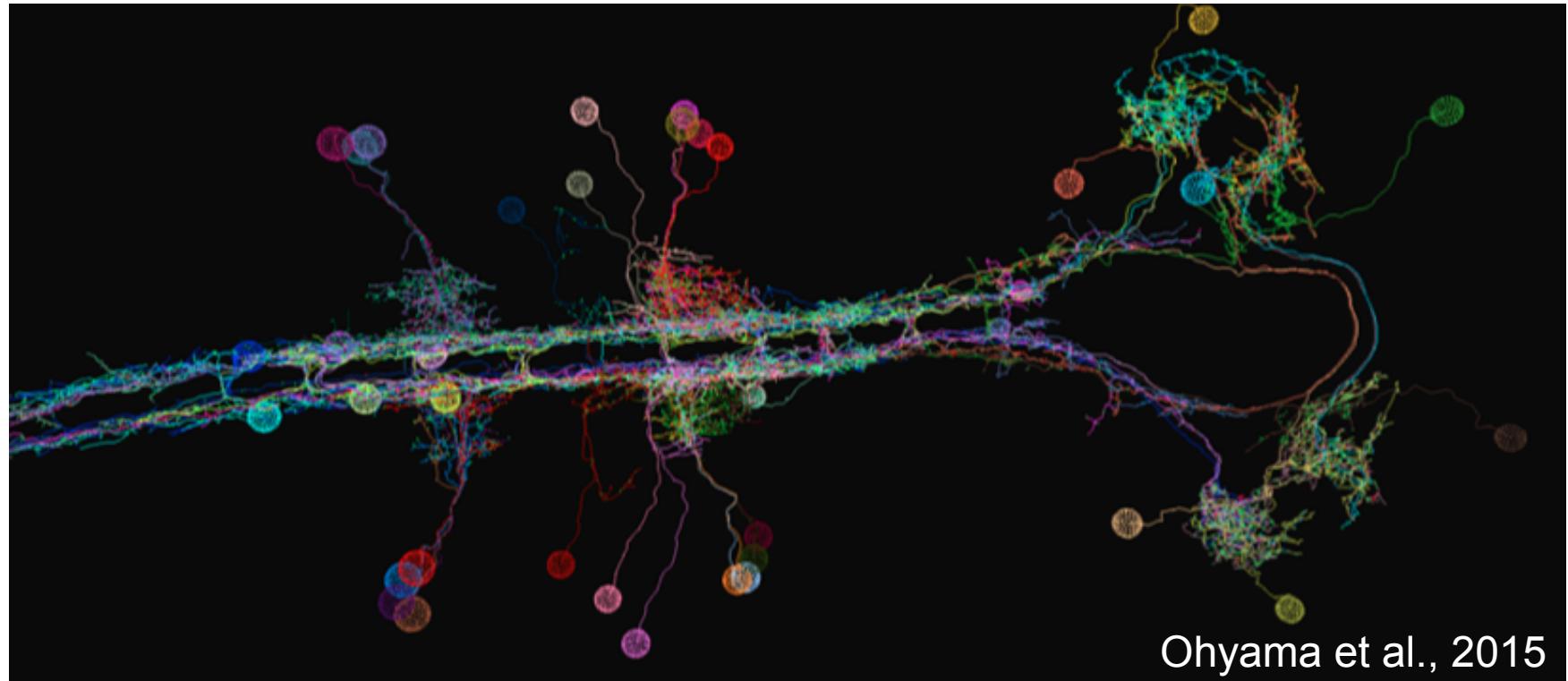
with semantic integration: image annotation



OWL individual
annotation

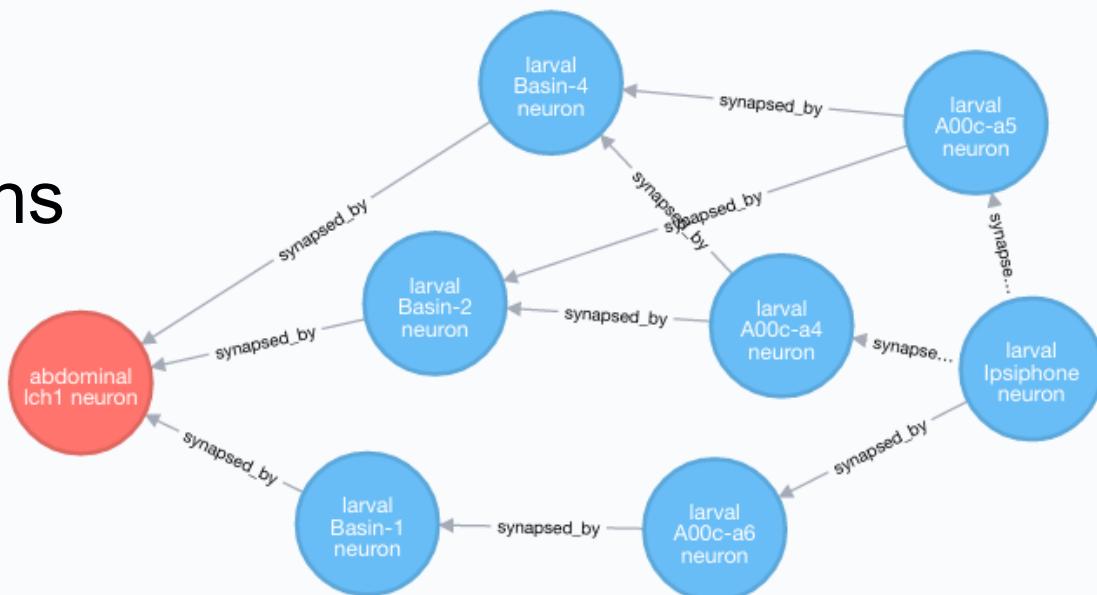
OWL2
W3C®
neo4j

VFB 2 – interactive 3D circuit reconstructions



Context graphs: Exploring circuit paths

Query: circuit paths from
'abdominal vch1 neuron' to
'larval Ipsiphone neuron'



Value added by VFB

OWL-based approach

- › scalable, queryable integration of knowledge and data about *Drosophila* neuroanatomy

Knowledge curated from the literature

- › context and queryability to bulk data

Tight integration with FlyBase

- › Expression
- › Phenotypes

Planned collaboration with EBI

- › integration transcriptomic data

Nblast

- › find morphologically similar neurons
- › find potential driver lines for a specific neuron

Direct API's to query data.

HBP Collaboratory

<http://collab.humanbrainproject.eu>

The HBP Collaboratory collects tools from the HBP Platforms in one place and allows you to organize them into your own collaborative workspace or *collab*.

The HBP Collaboratory is your virtual lab bench

Explore, Work, Collaborate, Organize

- **Explore** the HBP Platform ecosystem
- **Work** with integrated web accessible scientific tools to analyze, visualize and share data.

- **Collaborate** by adding team members to your collab to gain insights outside your areas of expertise
- **Organize** your work with tools from the HBP Platforms integrated in the Collaboratory

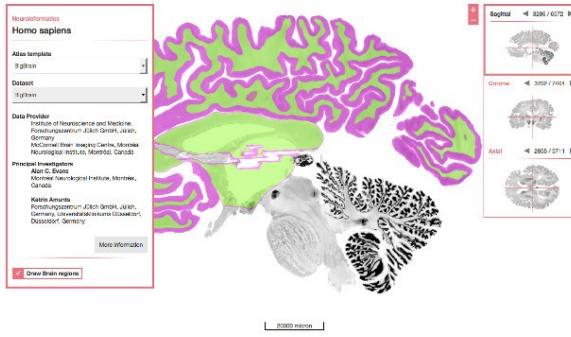
The screenshot displays the HBP Collaboratory interface across three main sections:

- Software Catalog:** On the left, a sidebar lists navigation options like Getting Started, Software Catalog (which is highlighted), Create a Collab, Platform Collaboratories, HBP Websites, App Development, Roadmap, Co-design Projects, Storage, Team, and Platform Summary.
- Workspace:** The central area shows a list of software libraries:
 - Deflect Client Library (category:library)
 - AnaRM (Analog Readout Module) (category:library)
 - Basic software libraries for the I (category:library)
 - Logging Framework for UHEI Sc (category:library)
 - Low-level Interface for (USB-based) (category:library)
 - 3DSynapsesSA (category:library)
 - SynapseGenerator (category:library)
 - Neuromorphic Platform Python (category:library)
 - PyNN (category:library)
 - 3DSomaMS (category:library)
 - NeuroM (category:library)A "Load Next Results" button and a note to "Learn how to add your software to the catalog" are also present.
- Requirements Installation:** The right section shows a Jupyter Notebook cell titled "requirements installation". It contains code to install requirements from a URL and installs the "circuitviewer" extension. A "CellToolbar" is visible above the notebook cell.

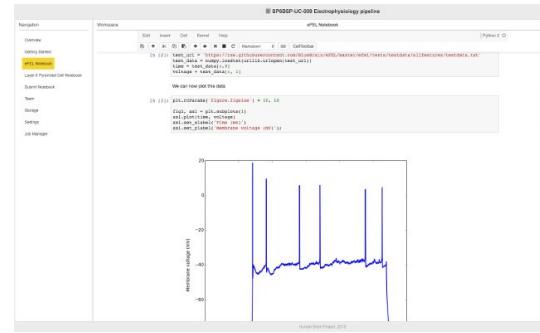
Explore and *Use* the HBP Platform Ecosystem

Federated across Europe, the HBP Platforms provide strategic tools in:

Neuroinformatics



Brain Simulation



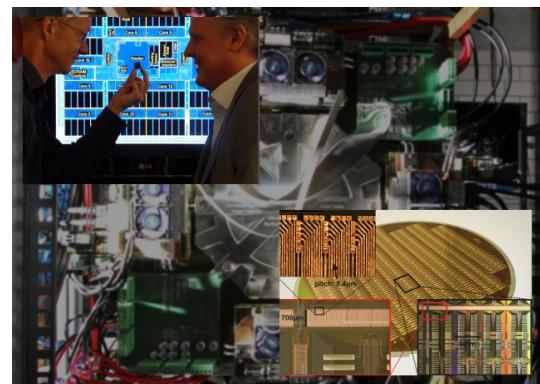
Medical Informatics



High Performance Analytics and Computing (HPAC)



Neuromorphic Computing



Neurorobotics



Getting Access

To access the HBP Collaboratory you need an **HBP Identity account**.

Information on how to request an account can be found here:

<https://www.humanbrainproject.eu/en/hbp-platforms/getting-access/>

With a basic HBP Identity Account you can access:

- HBP Collaboratory:
- Browse Platform collabs
- Browse HBP Collaboratory public collabs
- Add files to public collabs where the user is a member
- **Create public collabs** and populate them with content
- Create public **Jupyter notebooks** and edit them
- Can be added to private collabs by collab owners

platform@humanbrainproject.eu