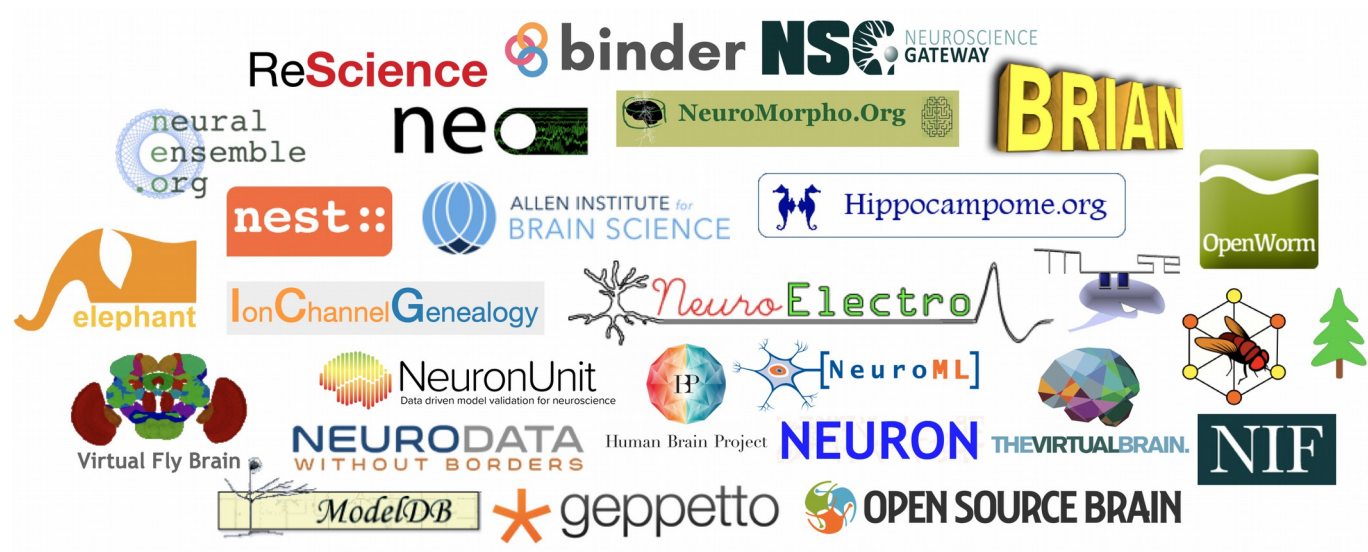


# Neuroinformatics resources for computational modellers



Padraig Gleeson (University College London, UK)  
Andrew Davison (CNRS, Gif-sur-Yvette, France) &  
<https://github.com/NeuralEnsemble/NeuroinformaticsTutorial/blob/master/CONTRIBUTORS.md>

# Introduction

Neuroinformatics (like computational neuroscience, connectomics, etc.) means many different things to different people...

**Brain Atlases**

**Open source tools**

**Neuroimaging**

**Computing resources**

**Connectivity data**

**Anatomical datasets**

**Electrophysiology  
data sharing**

**Model sharing**

**Gene expression**

# Current tutorial

*Focus on **neuroinformatics resources** which may be of use for those **creating and analysing computational models of neuronal systems***

# Topics

Experimental datasets

Structured data from literature

Analysis tools

Simulation environments


Model sharing

Computing infrastructure



Open source initiatives

Web portals

# Online tutorial materials

 This repository Search

Pull requestsIssuesMarketplaceGist


 + 



NeuralEnsemble / NeuroinformaticsTutorial

Unwatch 4Star 2Fork 8

[Code](#) [Issues 2](#) [Pull requests 0](#) [Projects 0](#) [Wiki](#) [Settings](#) [Insights](#)

Branch: master **NeuroinformaticsTutorial / Part\_1\_Resources\_for\_computational\_modellers / README.md** Find file Copy path

 pgleeson Ading osb 677888d 4 hours ago

2 contributors  

374 lines (212 sloc) | 14.3 KB

RawBlameHistory

## Part 1 - Resources for computational modellers

### Introduction

[All slides in this section](#)

### 1.1 Experimental datasets

[All slides in this section](#)

#### Allen Cell Types Database

A multimodal database of single cell characterization to enable data-driven approaches to classification. Key features include: whole cell patch clamping, raw images and morphological reconstructions, a variety of abstract point models as well as biophysically detailed compartmental models, and single cell RNA sequencing data.

[Website](#) | [Slides](#)

#### Allen Brain Observatory

The Allen Brain Observatory is an in vivo survey of physiological activity in the mouse visual cortex, featuring representations of visually evoked calcium responses from GCaMP6-expressing neurons in selected cortical layers, visual areas and Cre lines.

[Website](#) | [Slides](#)

#### CRCNS

A public repository hosting freely available neurophysiology and behavioural data useful for computational neuroscience. Includes data from a variety of species and brain regions and species.

[Website](#) | [Slides](#)

#### HBP Neuroinformatics



# Exercises

## **Hands on demonstrations**

Human Brain Project Collaboratory

Run Allen Institute cell model on NSG via OSB

Demonstration of Neo/PyNN using Jupyter notebooks

## **Participant Exercises**

Cell morphology from NeuroMorpho.Org visualised on Open Source Brain

Exploring Brain Circuits with the Fruit Fly Brain Observatory

OpenWorm tutorials