



OPEN DATA IN NEUROSCIENCE: BRAIN ATLASES AND DATA RE-USE

23rd October 2024

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PhD in Biomedicine



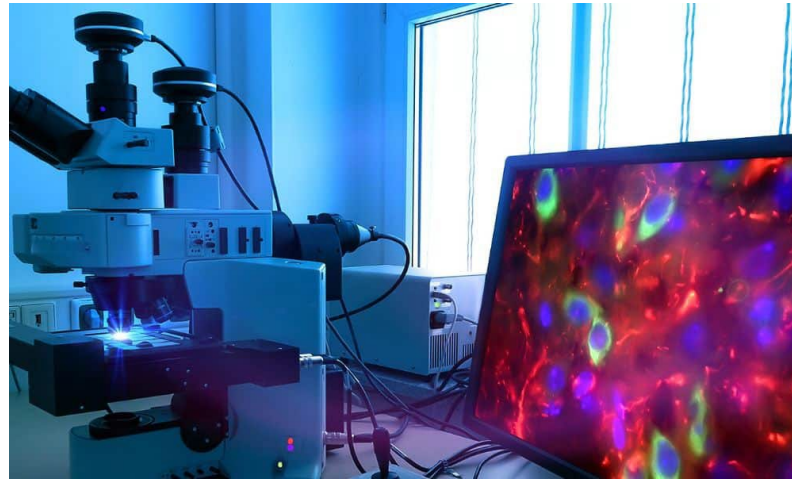
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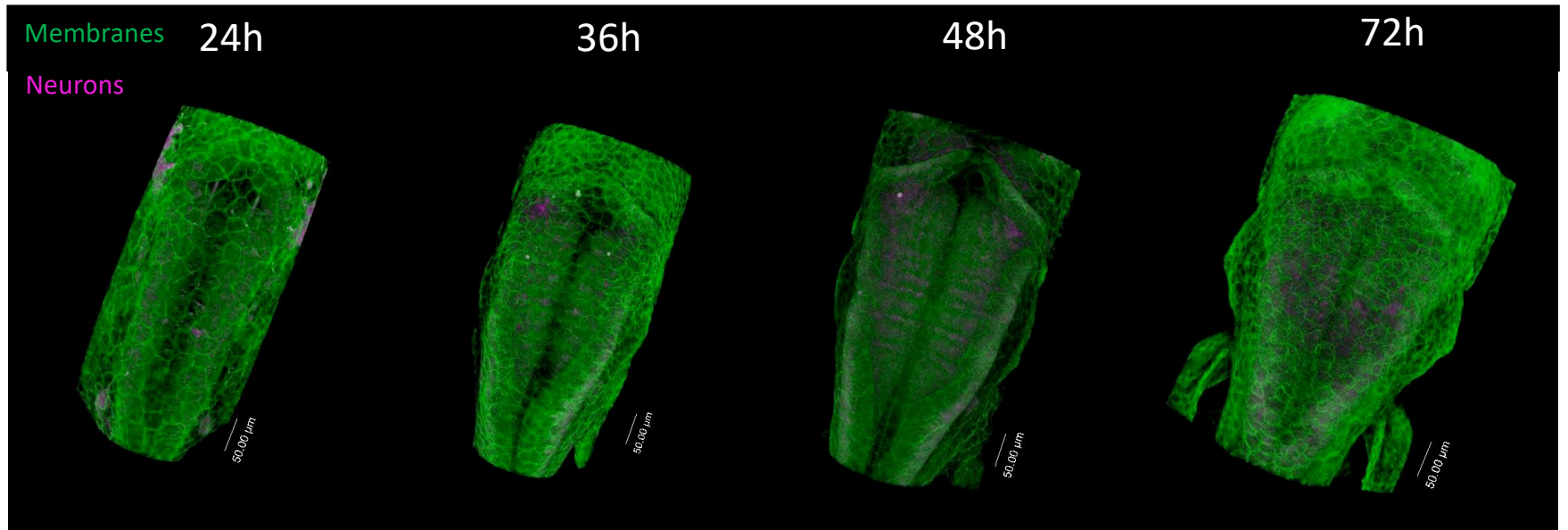
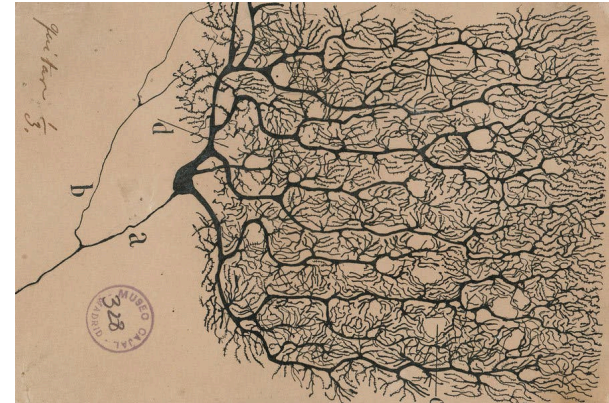
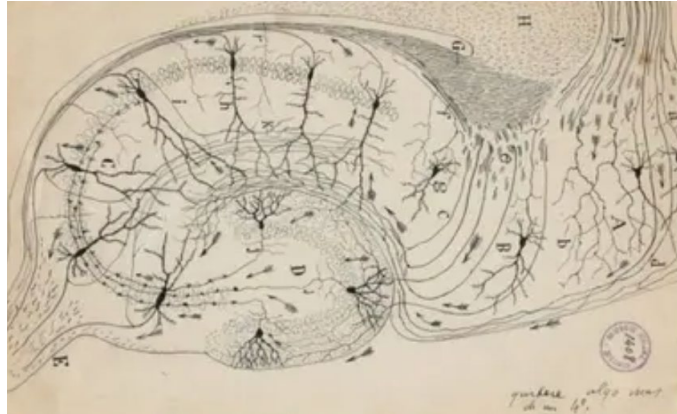


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How we look at the brain



How we represent the Brain



The difficulty of blending informations

*e!*Ensembl



Public Genome databases



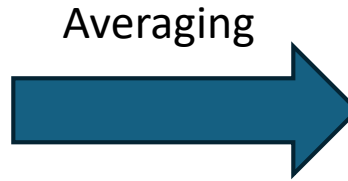
Big national institutions



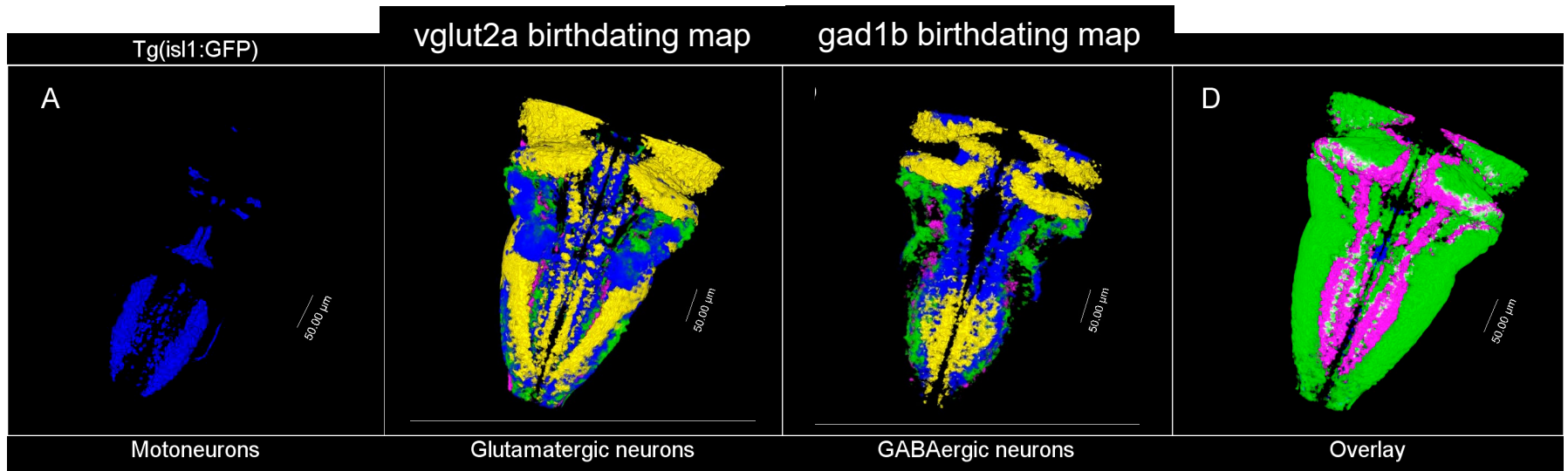
Can we improve our way to represent the brain ?



Each a little different

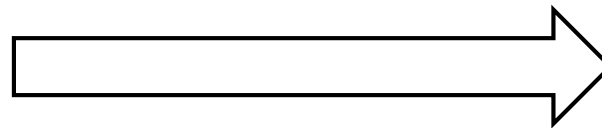


Models to compensate inter-individual variability



Blanc et al., 2022

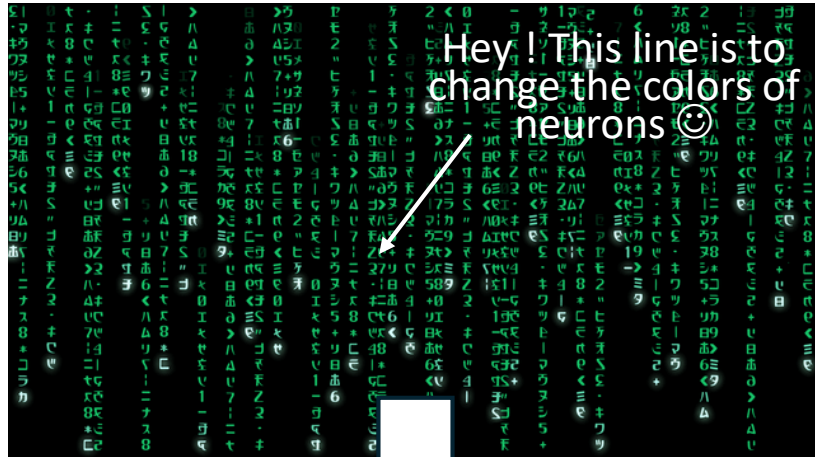
Can we make sure it is **re-usable** ?



What matter is
the user base !



Can we make sure it is reproducible/adaptable ?



Code annotation

This macro requires as an Input a folder directory and gives as an Output a set of individual channel stacks named: C + "Channel Number" - "File Name".tif. In addition, the pipeline can be modified to adjust different numbers of samples and/or trained users. To change it, do so through the GUI that appears after running the macro.

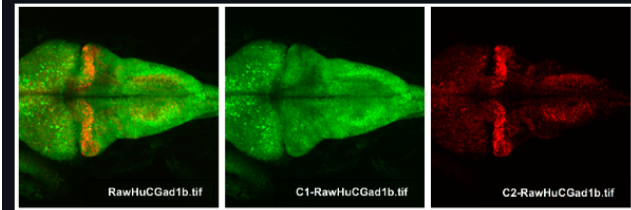


Fig 3. Input and Output stacks of the Auto Channel Splitter Macro. In the left image, we can observe the dual-channel stack of one of the Tg[HuC:GFP; Gad1b:DsRed] embryos we used as an Input. The images on the centre and right are the different channels of signals separated. In the centre (in green) we show channel 1, the isolated HuC signal and to the right (in red), channel 2, the isolated Gad1b signal. The images shown are dorsal maximal intensity projections (dMIP).



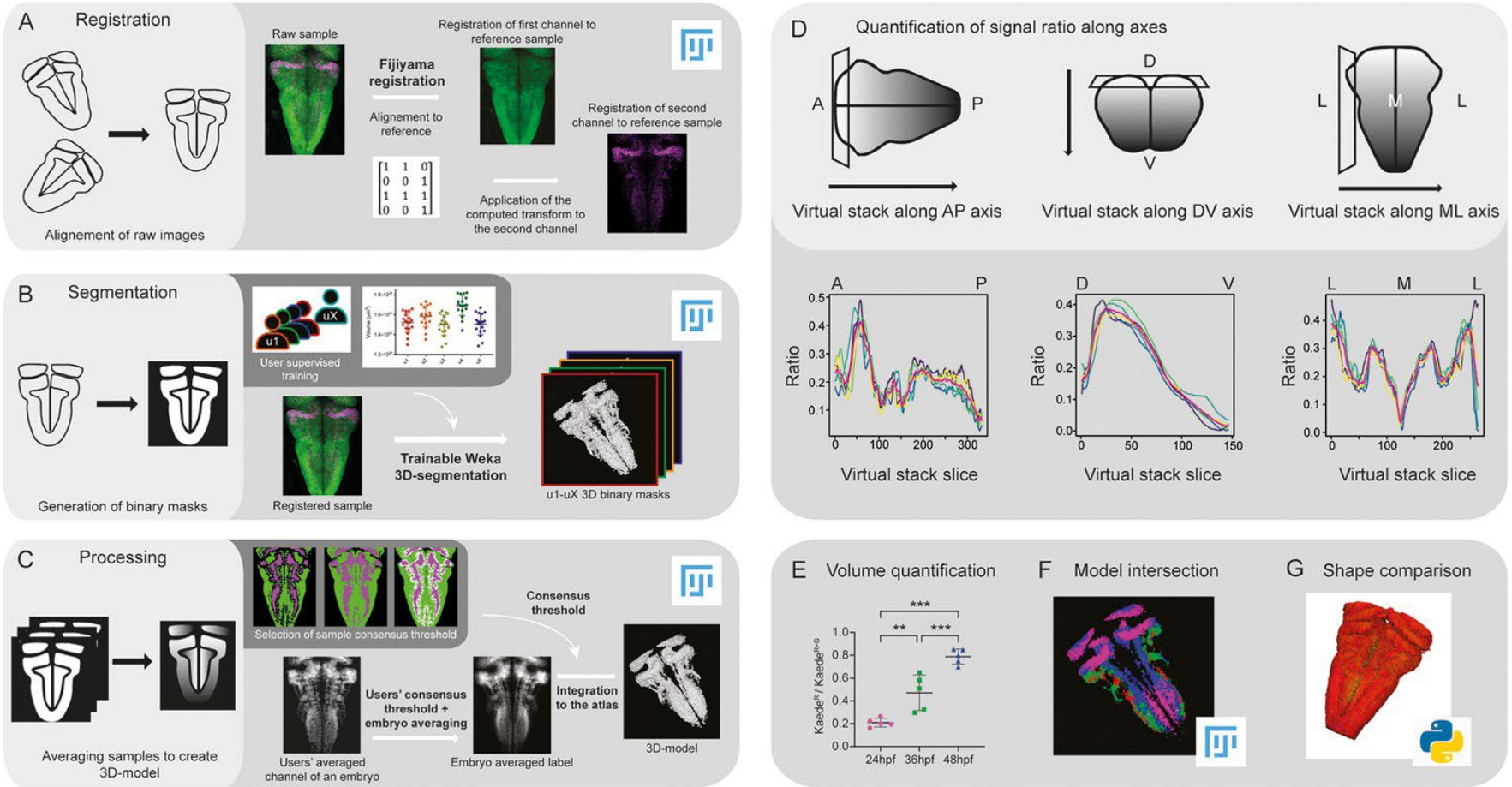
code databases



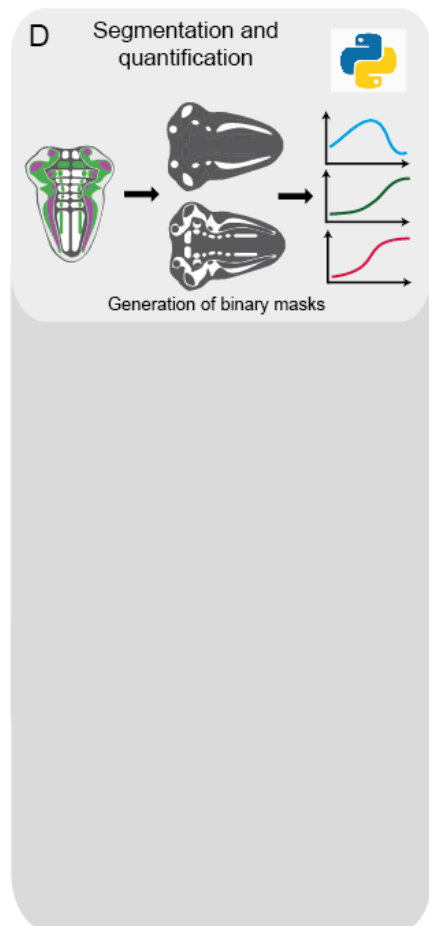
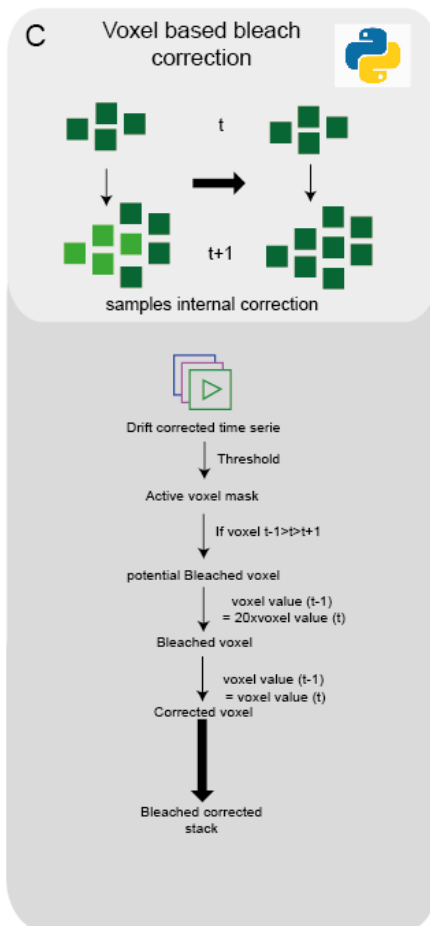
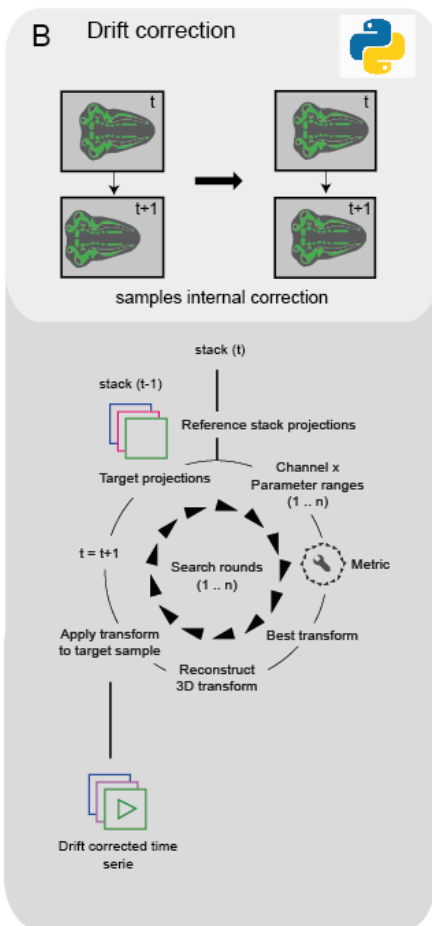
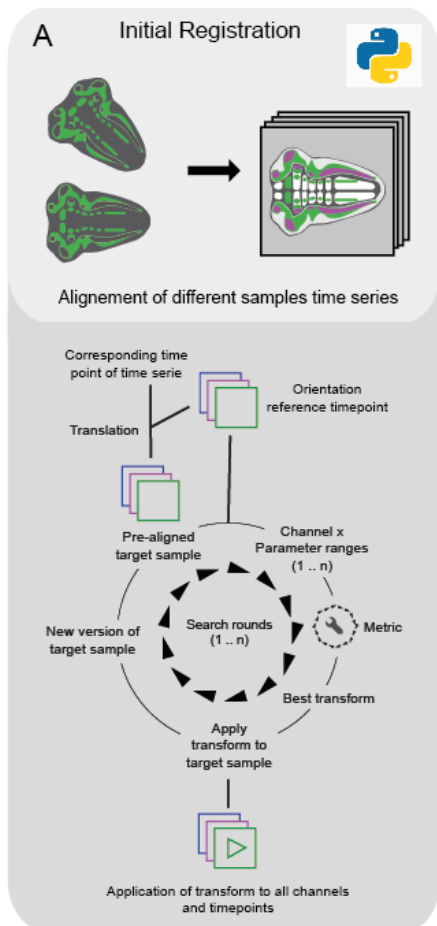
Code tutorials and pipelines

Standardized – open source – adaptable pipelines

The Digital 3D Atlas MAKER (DAMAKER)



Towards 4D atlases





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Thanks for your attention !



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