

Parhyale 3D Segmentation dataset

Summary

The Parhyale 3D Segmentation dataset consists of 50 timepoints (TP01-TP50) of 3D images (512x512x34), where the manual annotations can be found at discrete 6 timepoints (at TP01, TP11, TP21, TP31, TP41 and TP50).

Descriptions

Parhyale_H2B-EGFP_images_tp01-50.tif

Regenerating legs of *Parhyale hawaiiensis* expressing Histone-EGFP from the PhHS>H2B-EGFP transgene.

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Microscope: cLSM Zeiss 780 inverted confocal microscope
Objective lens: EC Plan-Neofluar 20x/0.5 (Without Immersion)
Voxel size (microns): 0.2768 x 0.2768 x 2.1605
Time step (min): 30
Bit depth: unsigned 8 bit (0-255)
```

This dataset is a part of the recording #04 in the original paper. The details can be found there.

<https://elifesciences.org/articles/19766#tbl1>

Parhyale_H2B-EGFP_instance-segmentation-labels_tpXX.tif

Manual annotations for 3D nuclei segmentation corresponding to the timepoints 01, 11, 21, 31, 41, 50 of the data described above.

The annotation images are stored with unsigned 16-bit depth, where the backgrounds are 0 and each nucleus is filled with the unique values.

Data availability

The dataset is provided by Averof Lab and is available upon request.

Terms of use

All the publications (papers, presentations, etc.) using the Parhyale 3D Segmentation dataset require to:

- Include citations to the following papers:

```
Alwes, F., Enjolras, C. & Averof, M. Live imaging reveals the progenitors and cell
dynamics of limb regeneration. Elife (2016). doi:10.7554/eLife.19766
```

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Weigert, M., Schmidt, U., Haase, R., Sugawara, K. & Myers, G. Star-convex polyhedra for
3D object detection and segmentation in microscopy. in Proceedings - 2020 IEEE Winter
Conference on Applications of Computer Vision, WACV 2020 3655-3662 (2020).
doi:10.1109/WACV45572.2020.9093435
```

- Include acknowledgements to the following members for providing the Parhyale 3D dataset:

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- Frederike Alwes (IGFL, France)
- Ko Sugawara (IGFL, France)
- Michalis Averof (IGFL, France)
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Redistribution of the data is generally restricted but you can include a part of the data if necessary for publication purpose.