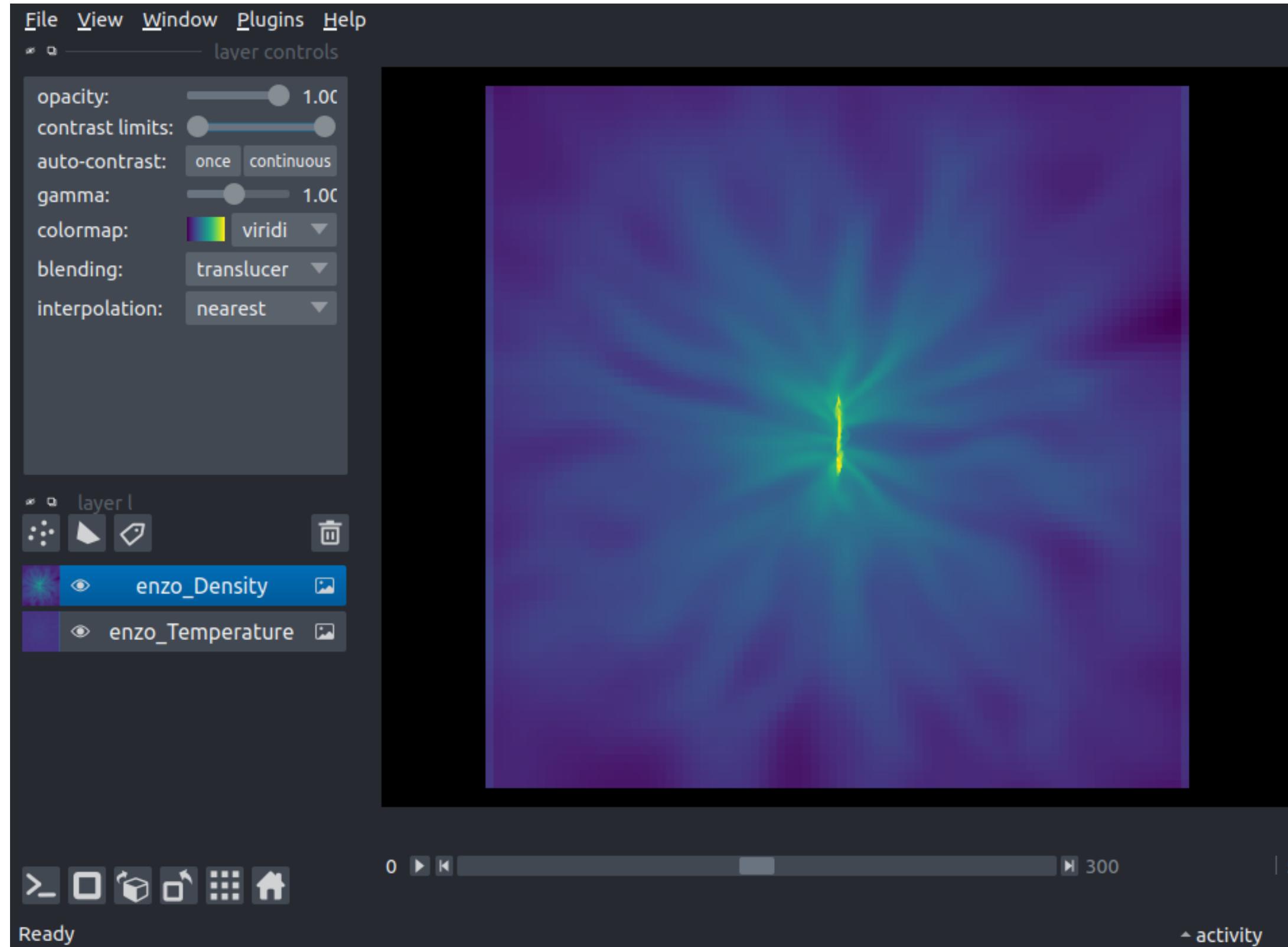


# View, annotate, and analyze multi-dimensional images in Python with napari



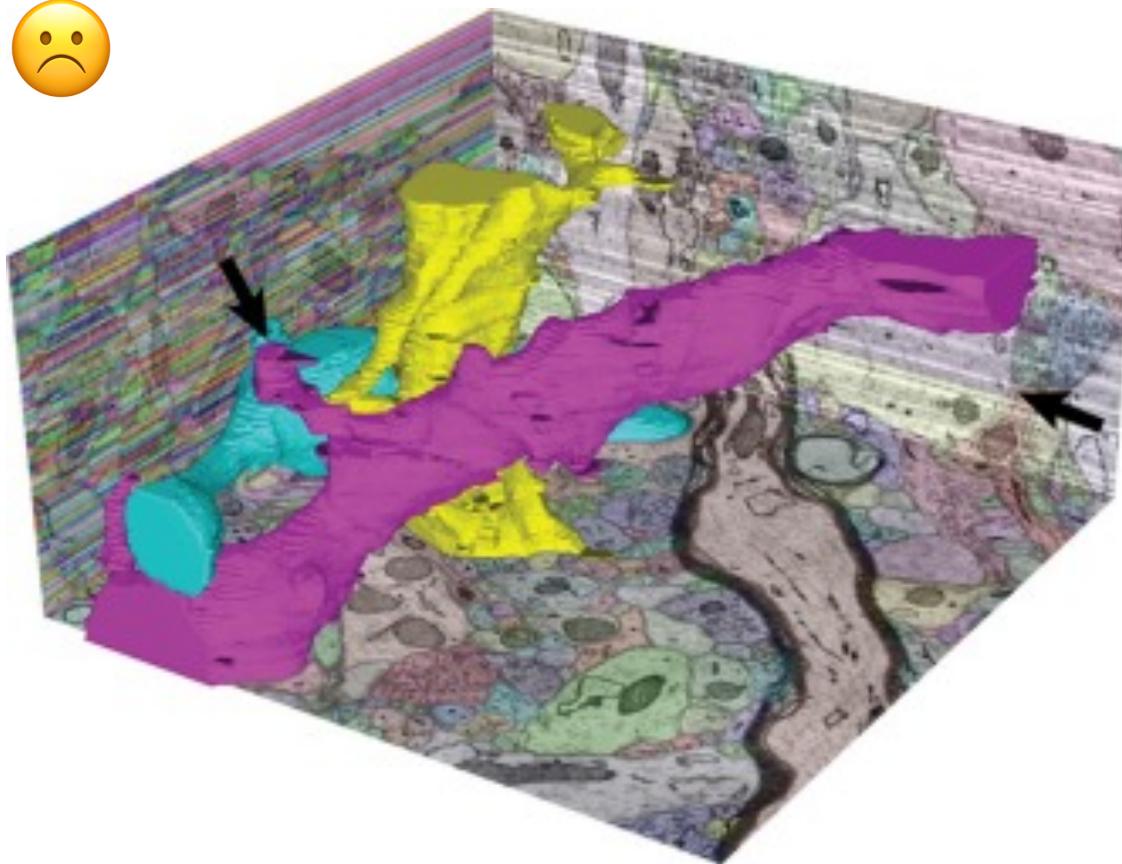
Juan Nunez-Iglesias, 2023-07-13



GaelVaroquaux commented on Oct 27, 2016

# A brief history (pre-napari)

2009-2018 😞



@GaelVaroquaux if you're interested in solving this and have some thoughts, we should have a brainstorming session :)

I've given up on this. I see this as a huge loss of time. People want 3D visualization, but it's only a toy, IMHO. And, to me, the failure to find resources to reliably solve it is an indication that it is not mission critical for anything.

It's certainly not the problem that I personally want to solve. I don't think that it is a problem that drives scientific progress. @agramfort knows my opinions on that :).



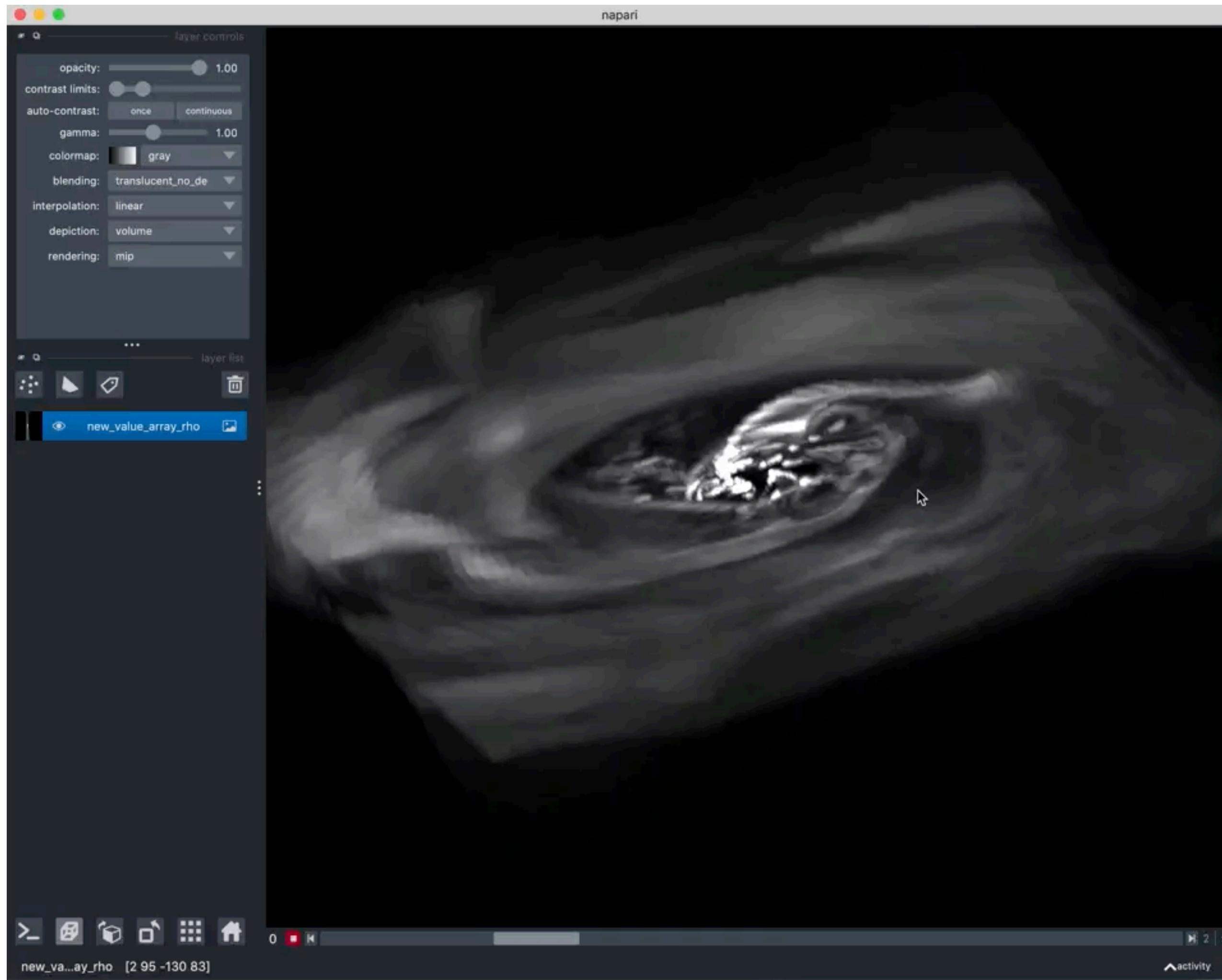
mid-2018



2019  
[bit.ly/introducing-napari](https://bit.ly/introducing-napari)

**Notebook...**

# n-dimensional viewer



Demo by Zach Jones

Data from Megan Marshall, Mark Avara, & Jonathan McKinney

10.48550/arXiv.1709.10113

**Notebook...**

# Plugins

[napari.org/stable/plugins](https://napari.org/stable/plugins)

Plugins allow developers to customize and extend napari. This includes

- Adding file format support with [readers](#) and [writers](#)
- Adding custom [widgets](#) and user interface elements
- Providing [sample data](#)
- Changing the look of napari with a color [theme](#)

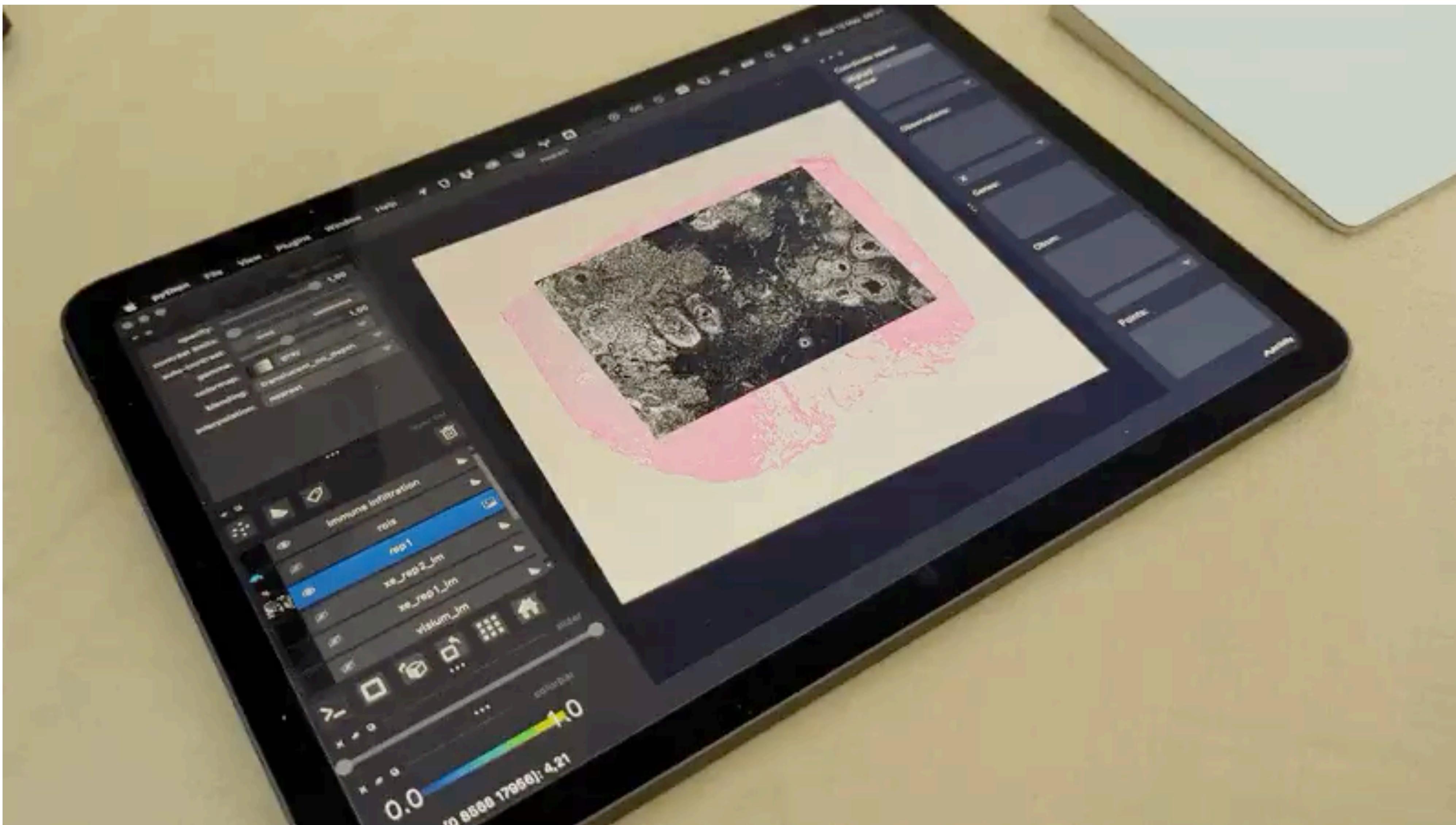
Here you can find:

- How to [build, test and publish a plugin](#).
- Where to find [guides](#) to help get you started.
- [Best practices](#) when developing plugins.

# Plugins

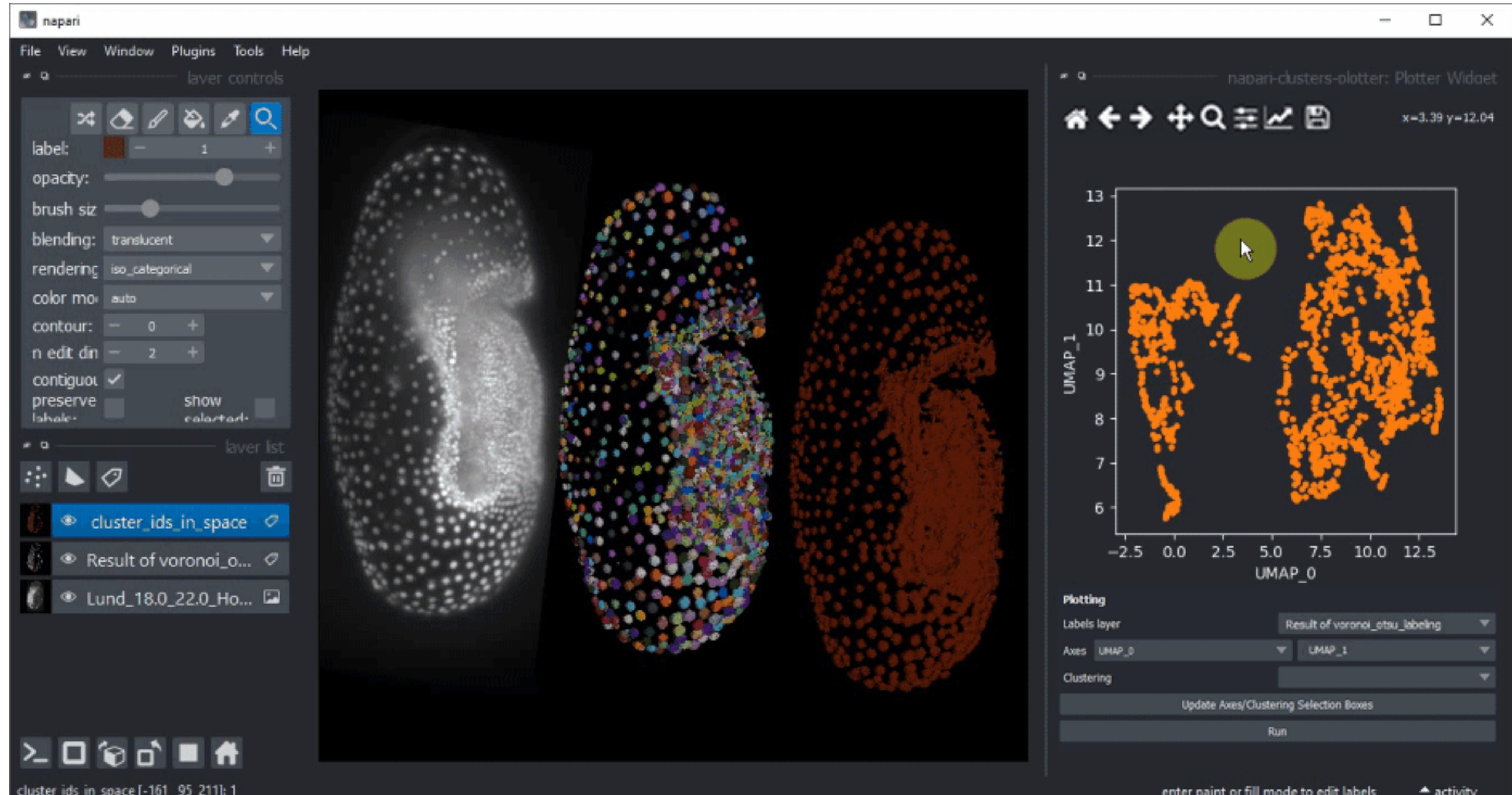
[napari.org/stable/plugins](https://napari.org/stable/plugins)

- napari.yaml in your package, describing what contributions it provides and where to find them
- `napari.manifest=` entrypoint in your setup.cfg(/pyproject.toml?)
- (Optional) Framework :: napari Trove classifier for discoverability



Wouter-Michiel Vierdag  
& Luca Marconato

# Extensibility with plugins

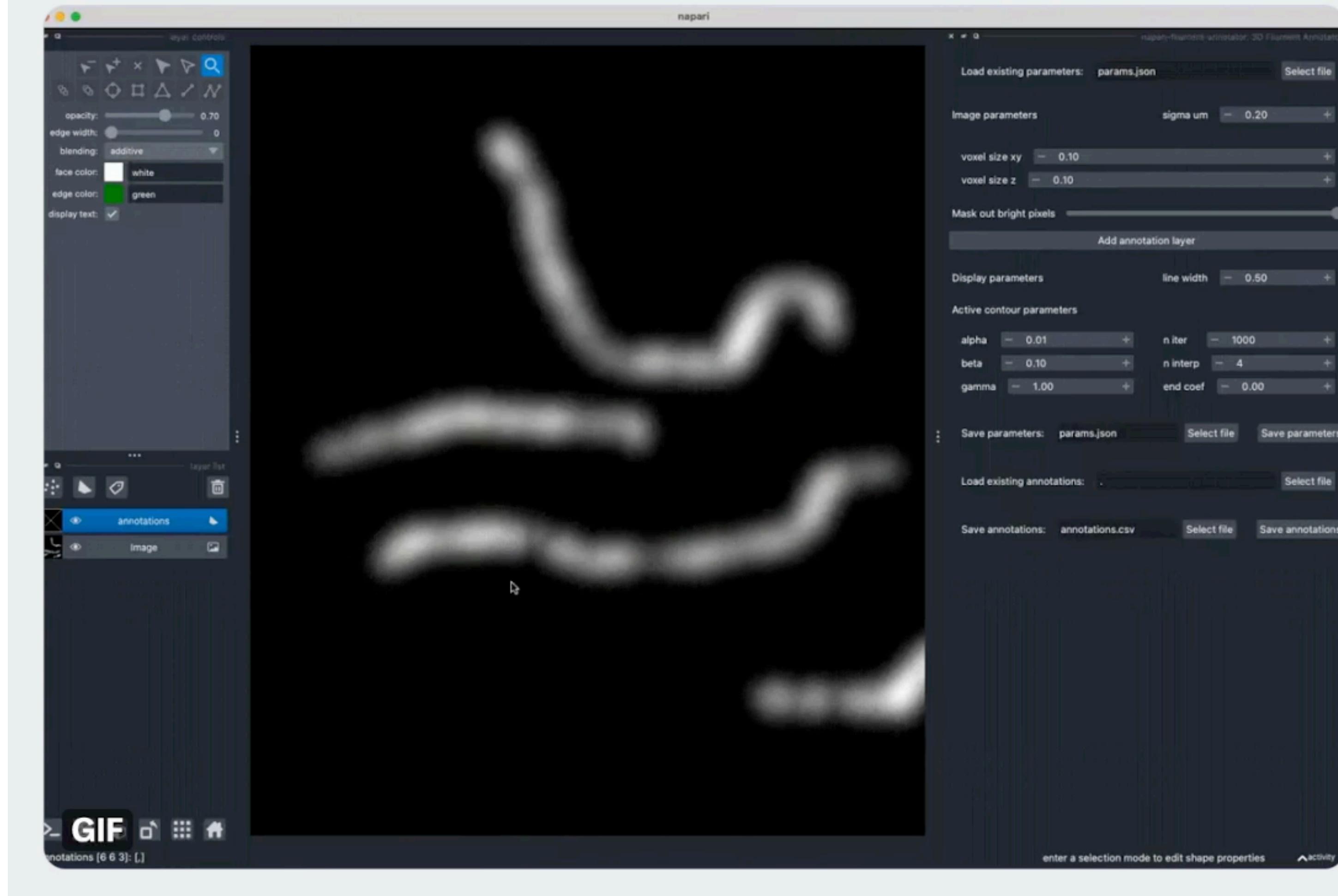


napari-clusters-plotter: Laura Zigutyte, Ryan Savill, Johannes Müller,  
Marcelo Zoccoler, Thorsten Wagner, Robert Haase

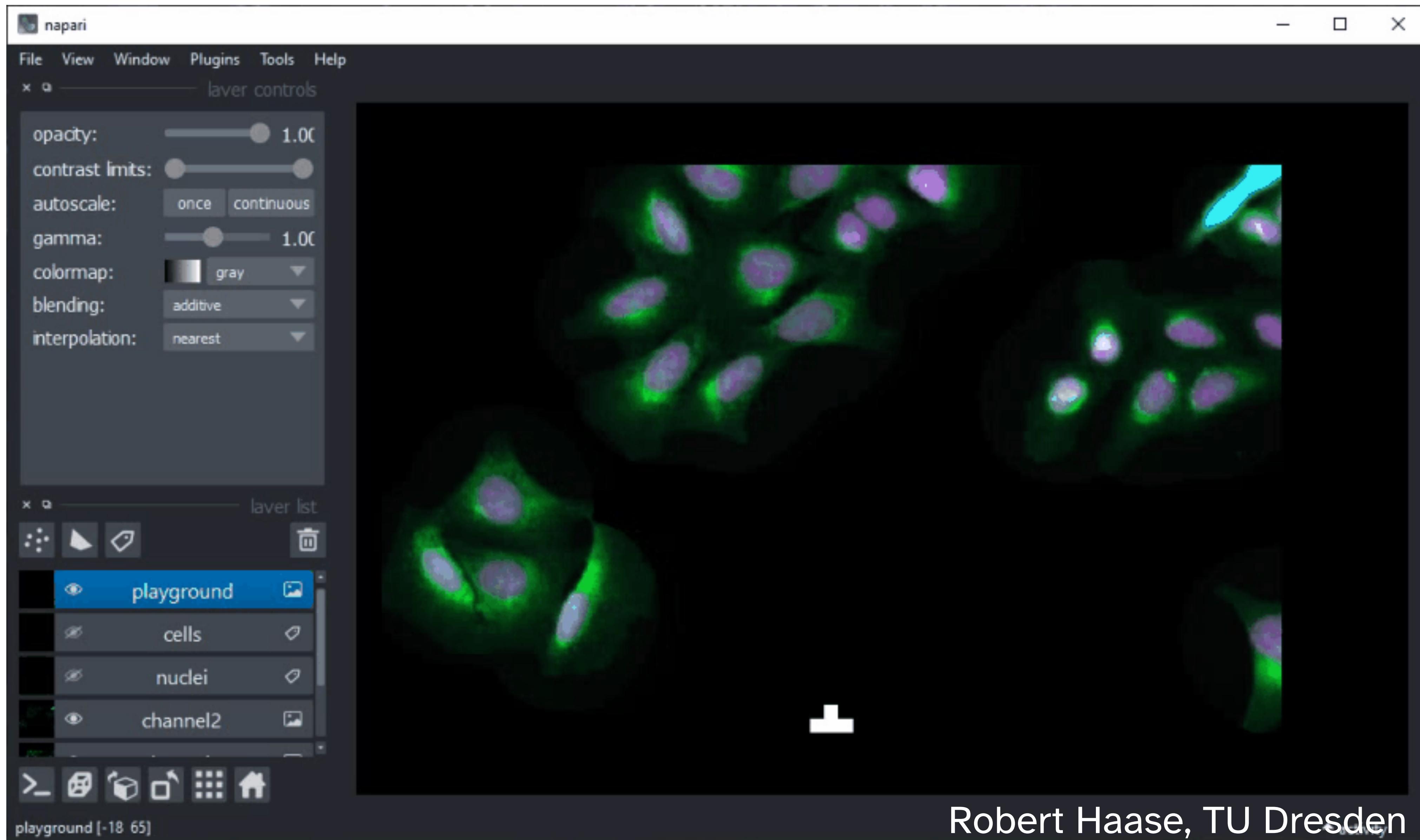


**Dr. Anna Medyukhina (she/her)**  
@anna\_medyukhina

The 3D filament annotator is now a [#napari](#) plugin and has an improved functionality [github.com/amedyukhina/na...](https://github.com/amedyukhina/napari-filament-annotator)



# Extensibility with plugins



Robert Haase, TU Dresden

**Community** ❤️

The napari community is open and welcoming.

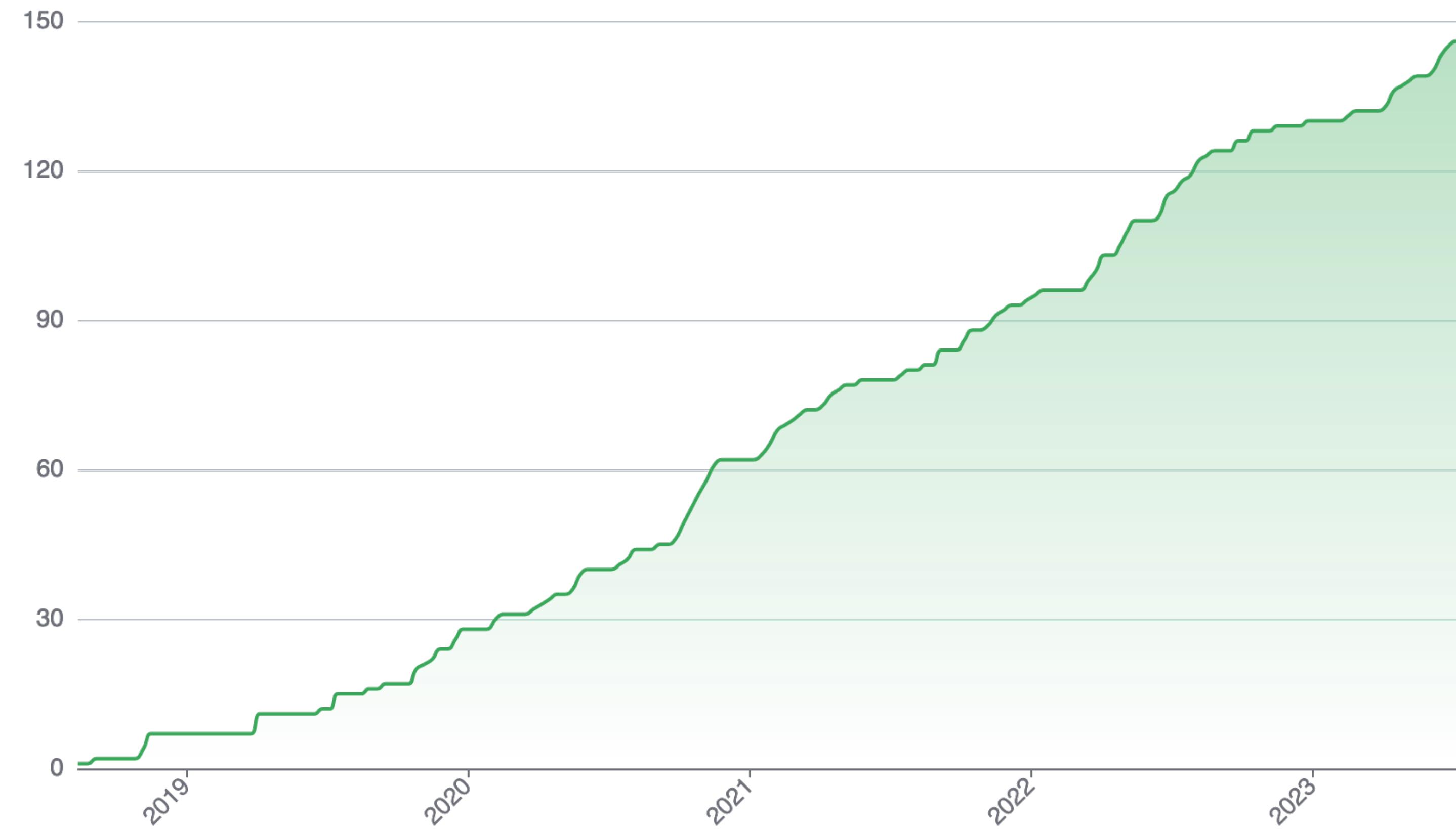
81%

7% 3% 3% 4%



### GitHub Contributor Over Time

napari/napari



To maintain and improve napari

17%

17%

17%

50%



🙏 Thanks! 🙏

the whole napari community:  
contributors, plugin devs, users

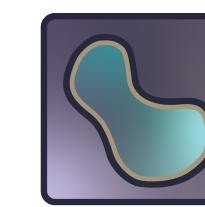
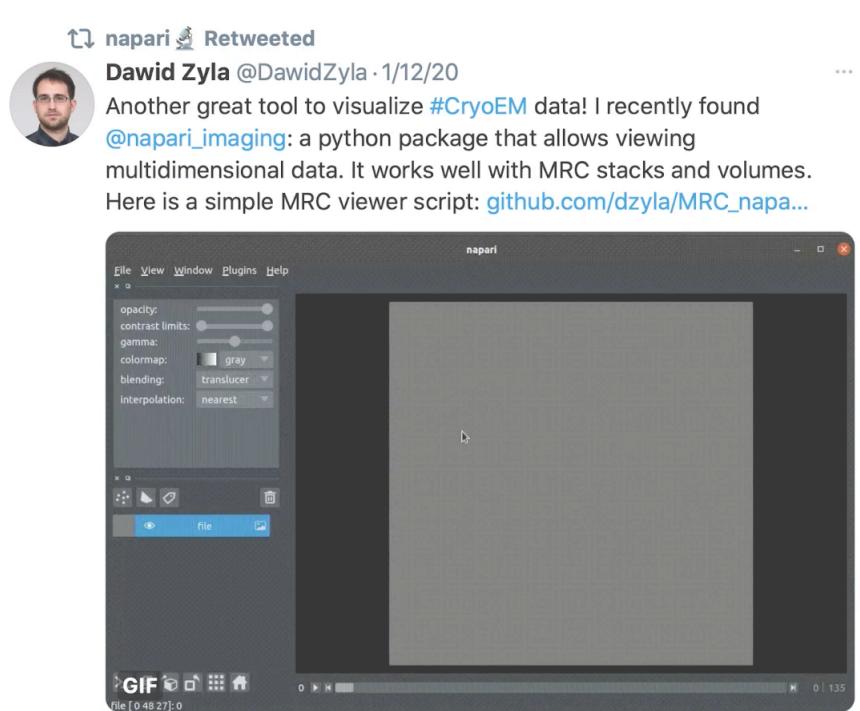


Quansight Labs

**NUMFOCUS**  
OPEN CODE = BETTER SCIENCE

YOUR LOGO  
HERE

# Join us!



[napari.org](https://napari.org)  
homepage, tutorials, documentation



[github.com/napari/napari](https://github.com/napari/napari)  
source code, bug/feature tracker



[forum.image.sc/tag/napari](https://forum.image.sc/tag/napari)  
question forum



[napari.zulipchat.com](https://napari.zulipchat.com)  
realtime chat



[fosstodon.org/@napari](https://fosstodon.org/@napari)  
news & updates



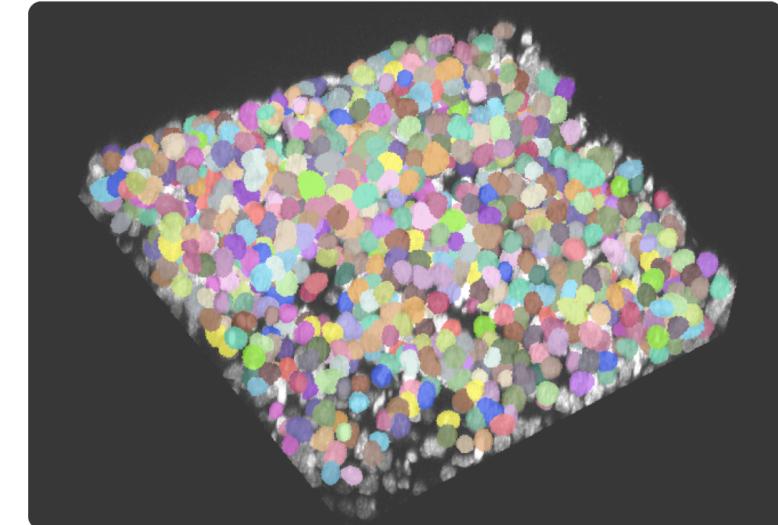
[@napari\\_imaging](https://twitter.com/napari_imaging)  
news & updates



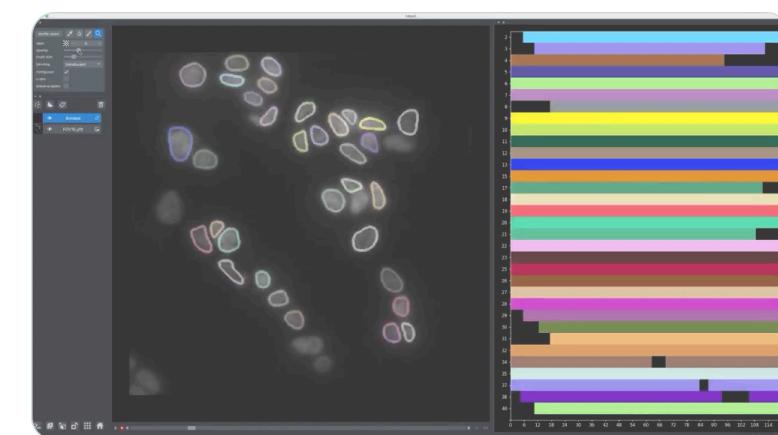
[napari.org/dev/community/meeting\\_schedule.html](https://napari.org/dev/community/meeting_schedule.html)  
community meetings



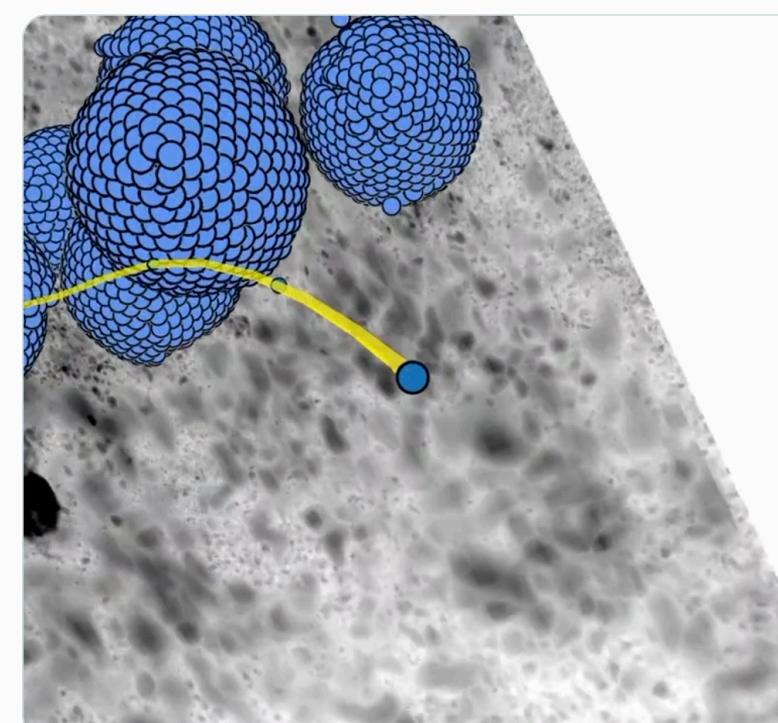
Here's my first attempt at using `#stardist` to segment 3D images of `#pituitary` cells (visualised using `@napari_imaging` 😊). Needs some tweaking but this was done with their out-of-the-box weights for 3D images... I expect improvements after training with my own images!



Robert Haase @haesleinhuepf Jun 11, 2020 Finally some quality single-cell tracking on some ninja cells! All thanks to `#stardist` for stellar segmentation, `@ilastik_team` for enabling smart tracking and `@napari_imaging` for making image/mask interaction possible and easy (with python). What a trinity...!



Sebastian Rhode @sebisabs Oct 14 The new `#LatticeLightsheet7` from `#zeiss_micro` is out and just today i loaded the first small dataset (8GB) from this amazing device into the `@napari_imaging` viewer on my laptop. Isotropic resolution is really cool

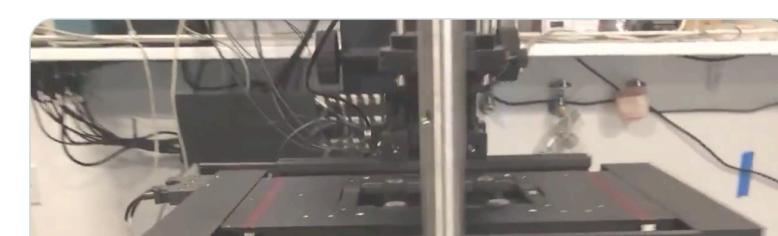


Abigail McGovern @AbilsNotABot Nov 9, 2020 Paint directly into zarr files with `@napari_imaging` and `#TensorStore`. No saving required.

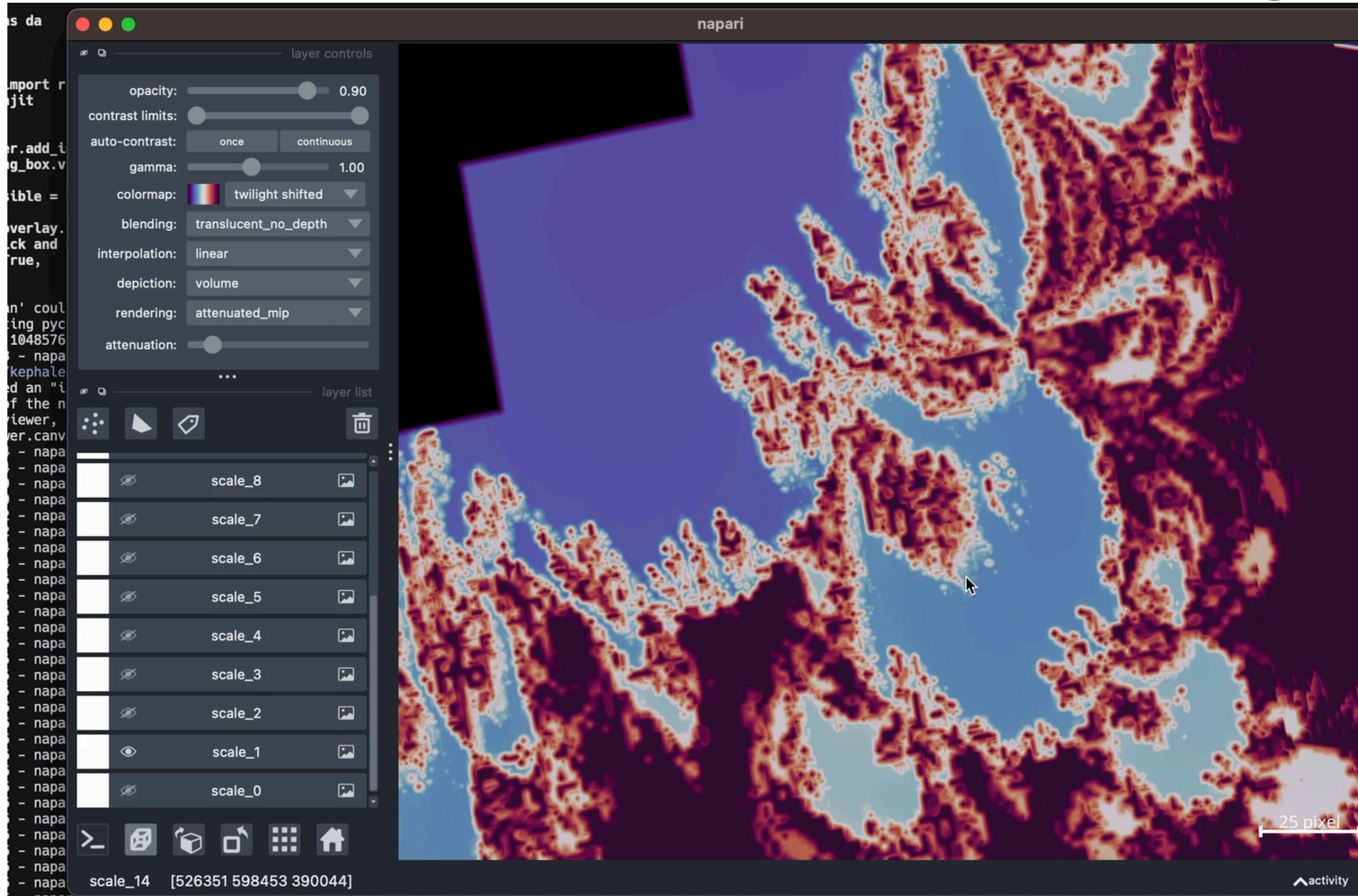
Alfred Millett-Sikking @amsikking Nov 9, 2020 Video rate light-sheet volumes with a standard microscope interface! 4-color, 270nm res, 200um FOV + 300um WD, ~1GB/s data +  $\mu$ s timing! #Snouty

Full `#Python` stack: simultaneous acquire, process, save and display designed by `@AndrewGYork` with `@napari_imaging`

Video: [@Kayley\\_Hake](#)



# multiscale viewer (3D coming soon...)



Demo by Kyle Harrington (CZI) (follow napari/napari#5561 for updates)

# customisation

Open source ftw!

