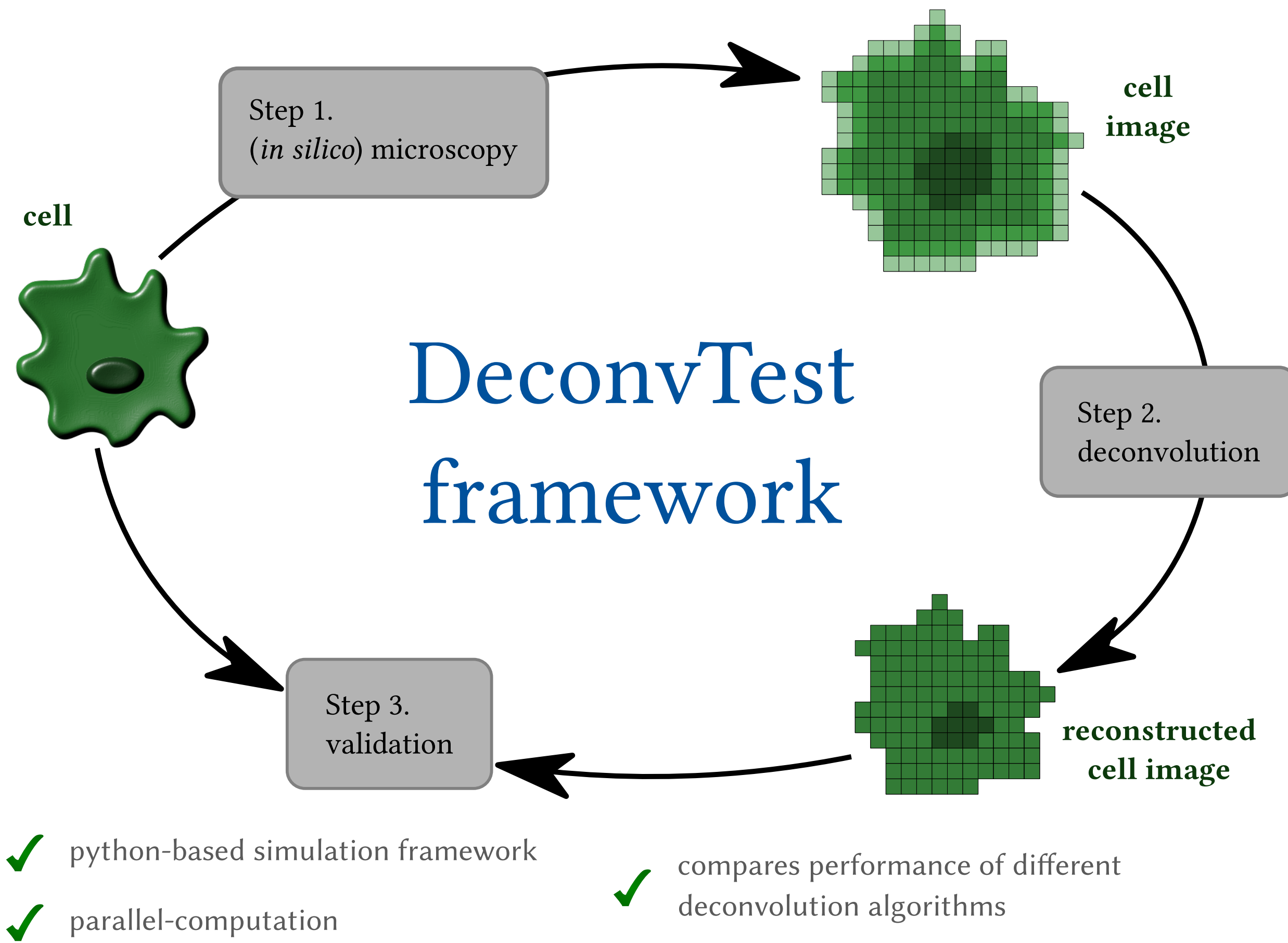


# DeconvTest: An in silico microscopy framework to evaluate the accuracy of deconvolution

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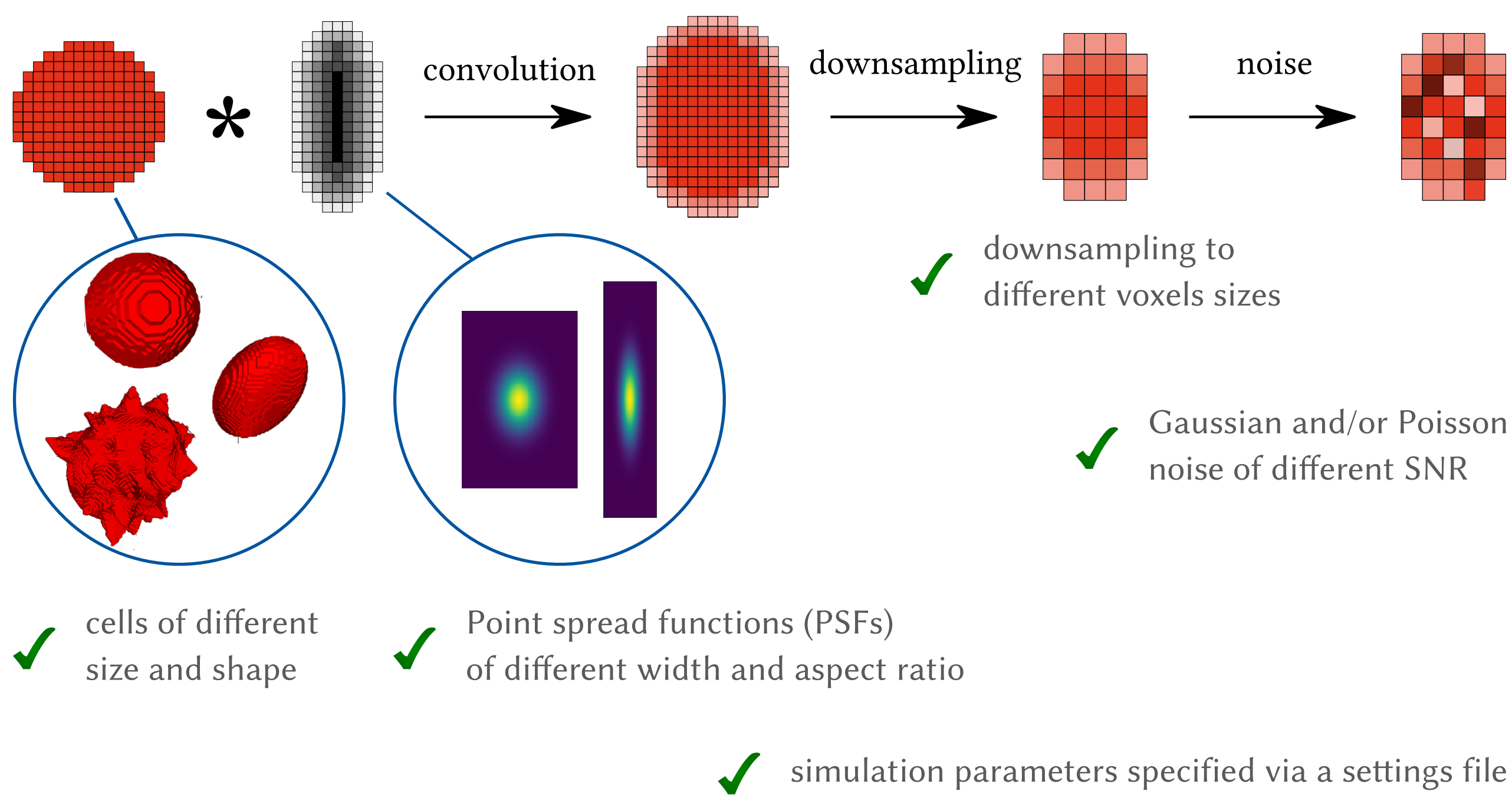
<sup>1</sup> Applied Systems Biology, Leibniz Institute for Natural Product Research and Infection Biology, Hans-Knöll-Institute (HKI), Jena, Germany; <sup>2</sup> Faculty of Biological Sciences, Friedrich Schiller University Jena, Jena, Germany

## 1. Introduction



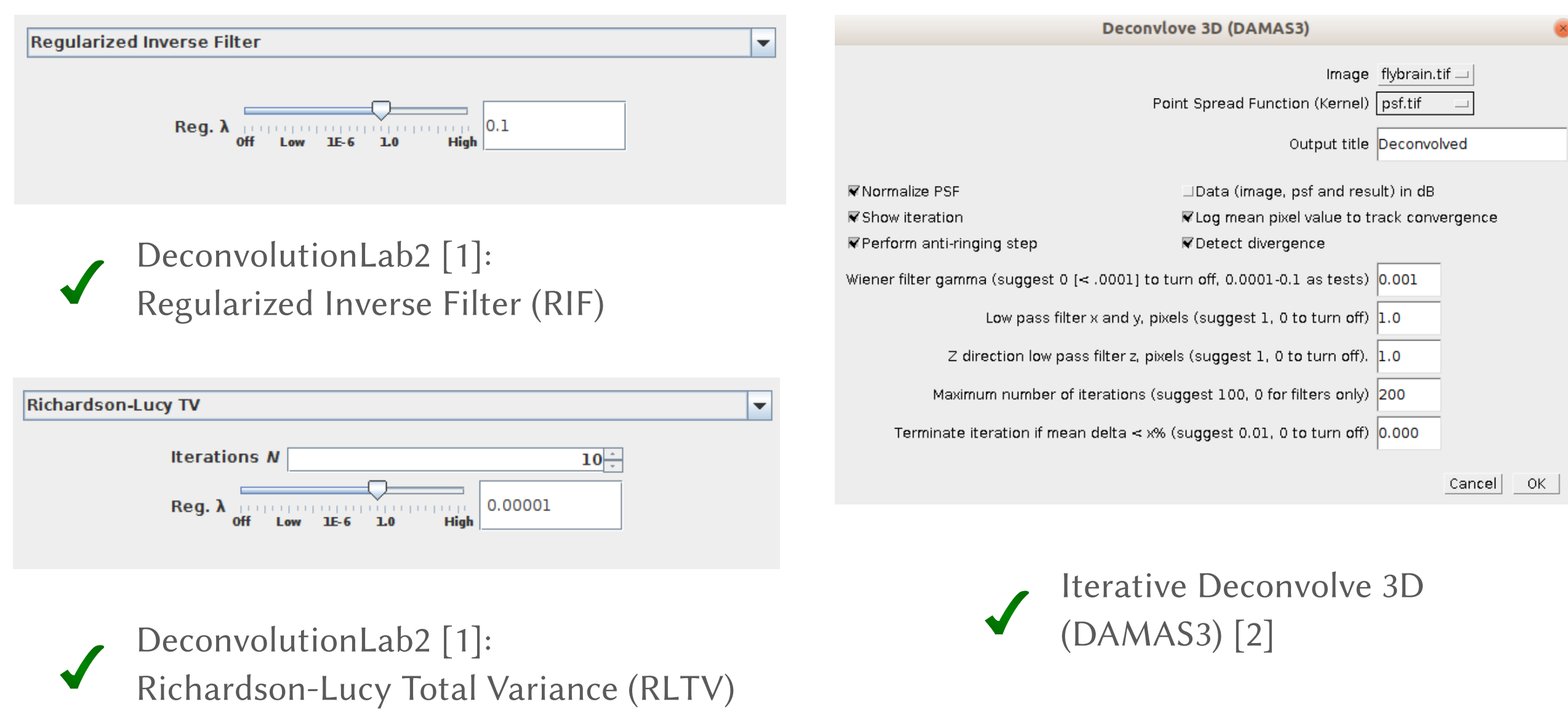
## 2. Methods

### Step 1. in silico microscopy

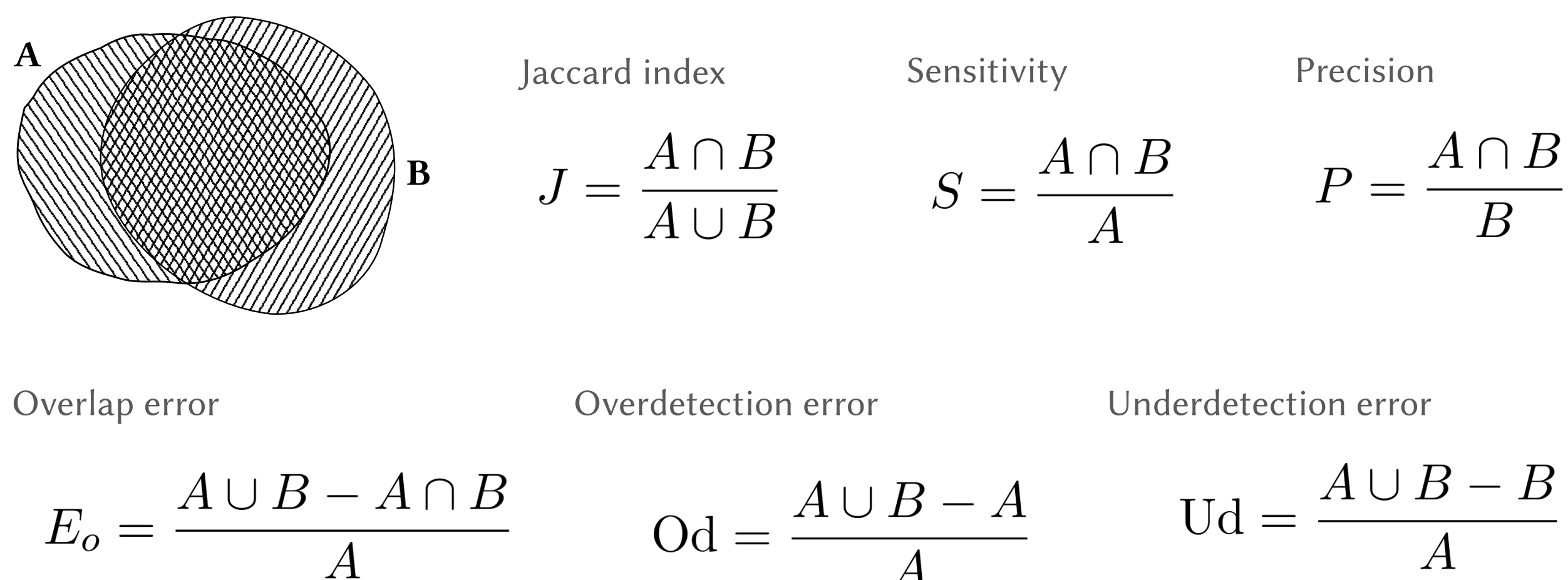


### Step 2. Deconvolution

ImageJ / Fiji deconvolution plugins run from python in a parallel manner:

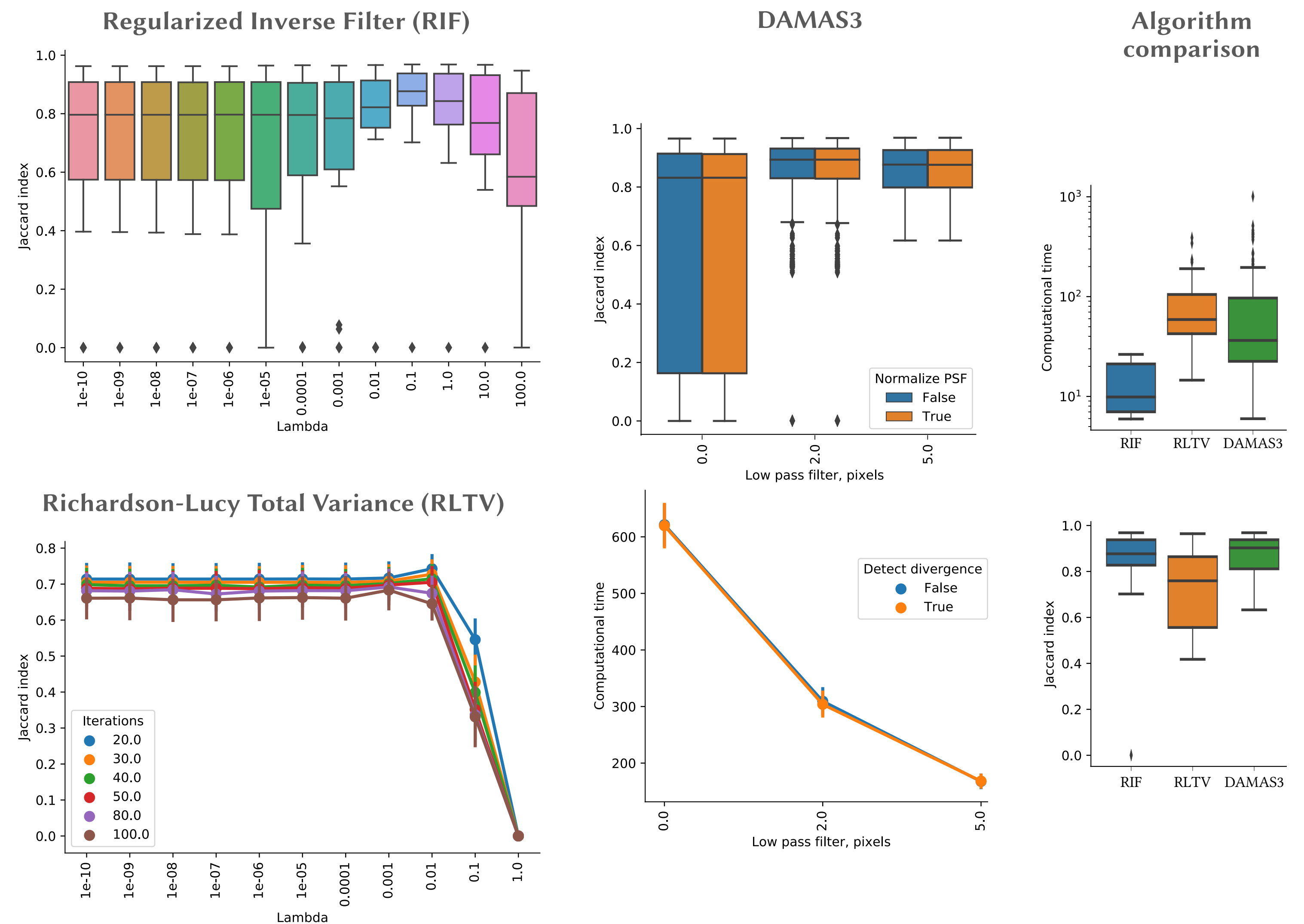


### Step 3. Validation

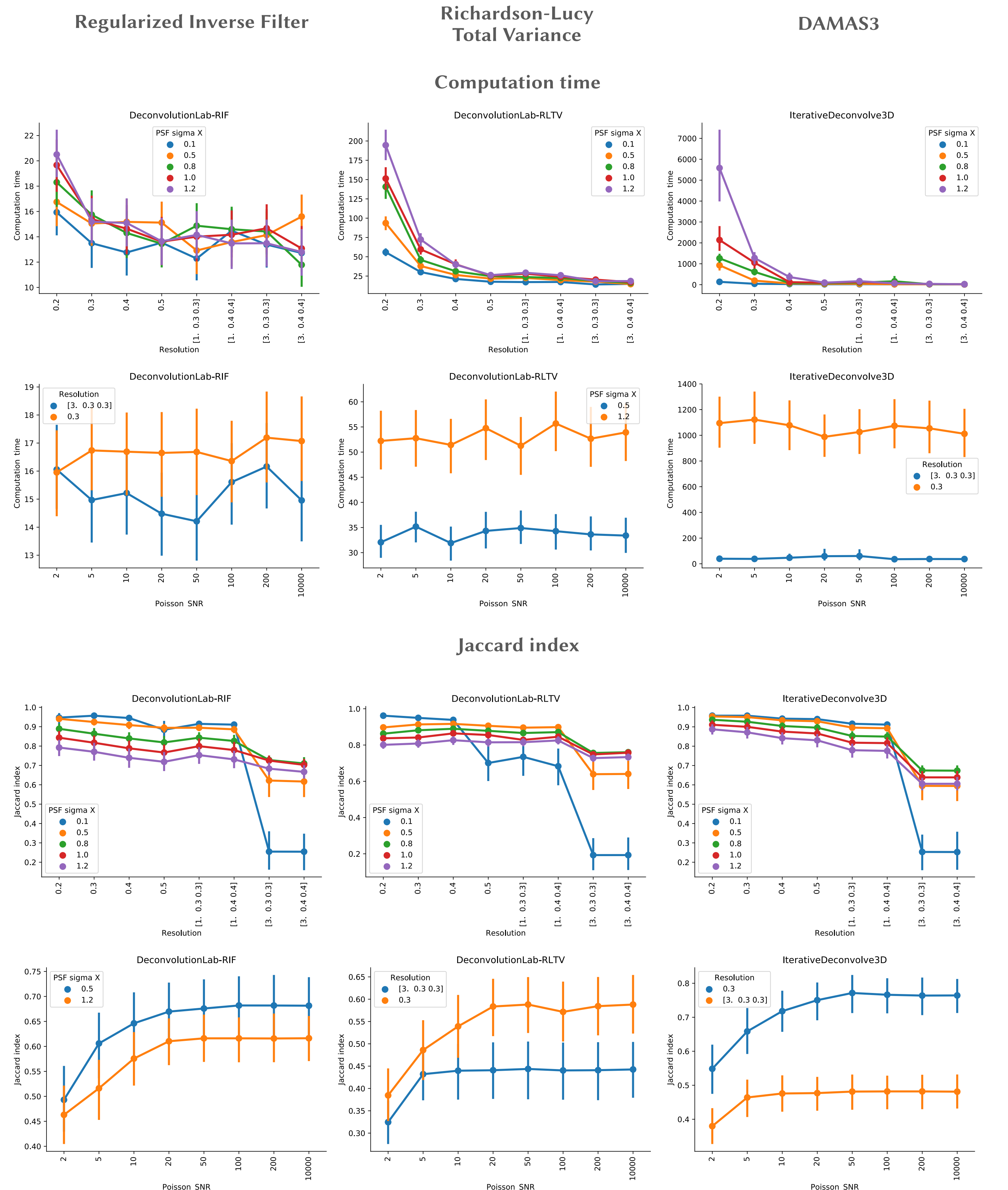


## 3. Results

### Comparison of deconvolution approaches and their settings



### Comparison of different parameters of in silico microscopy



## 4. Outlook

- ✗ Open source package on GitHub
- ✗ Include other types of input cells and PSFs
- ✗ Include further deconvolution algorithms

### References:

- [1] Sage, D. et al. "DeconvolutionLab2: An open-source software for deconvolution microscopy", (2017) Methods 155: 28-41.  
 [2] Dougherty, R. "Extensions of DAMAS and Benefits and Limitations of Deconvolution in Beamforming," (2005) American Institute of Aeronautics and Astronautics

