

2D Blind Deconvolution

AutoDeblur 2D 9.3: Crib Sheet

For Microscopes with Digital Cameras and Confocal Microscopes

Preparation:

- 1) Install the AutoQuant Combination Suite 9.3 on the computer.
 - a. Insert the AutoDeblur & AutoVisualize Installation CD
 - b. Open Windows Explorer and double click Setup.exe on the CD.
 - c. When “Please select the type of setup ...”, select *Complete*. This will create folders with sample data sets under subfolders entitled Tutorial Data and Demo Data.
2. Specify the startup directory to be the demonstration directory by carrying out the following steps:
 - a. Start AutoDeblur 9.3
 - b. Click on the following: File → Operation Settings.Under “Please specify startup directory”, press “Browse”, then navigate to and choose
C:\Program Files\AutoQuant\AutoQuant Imaging Suite 9.3\Demo Data.

The 5 minute demonstration:

With AutoDeblur running:

1. Go to *File → Open → C:\Program Files\AutoQuant\AutoQuant Imaging Suite 9.3\Demo Data\2D example.tif*.
2. Go to *Deconvolution → 2D Blind Deconvolution*. The settings in the dialog box are preset. Double check that they are as shown in the footnote below¹.
3. Click *OK*. The program will run within a couple of minutes.
4. After the deconvolution is finished, press the *Original/Current* button a few times and observe the improvements in the image.

Footnote

¹Settings should be indicated as: Data to deblur - Current View, Background – Black, Color – All Channels, Total Iterations – 20, PSF Correction Factor – 2, Super Res Factor – 1, Noise Smoothing – Low.

Algorithm Background:

The 2D Blind Deconvolution is exclusive to AutoQuant and does not require a point-spread function measurement. The algorithm was invented by Dr. David Biggs, one of AutoQuant's most notable and upcoming scientists. There is no other iterative-constrained 2D deconvolution on the market.

Advantages to AutoDeblur/AutoVisualize:

- Blind Deconvolution - requires no point-spread function measurement
- Works with many modalities, including:
 - Fluorescence
 - Confocal
 - Brightfield
 - Spinning disk (Yokagawa, Spinning-disk)
 - Reflected light
 - DIC
 - Hoffman
 - Darkfield
 - Electron Microscopy
 - others

Questions?:

Call (518)276-2138; ask for *Technical Support*. Online go to support.aqi.com.