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# PICOLAY

- the official channel -

# - Understanding stacking parameters -

Set stacking parameters		
Noise suppression (030) <b>10</b>		
Narrow or widen patches (-/+10) -2		
Filter: Smart 🔲 Fixed (110) 2		
Prefer high 🔄 / 🔄 low frames		
Align 📄 Test 4 filter settings 📄 Auto-enhance 📄 Save depth map 🗹	Back	Go

#### PICOLAY tutorial by Heribert Cypionka

# F2 or $\rightarrow$ Stack operations $\rightarrow$ Set stacking parameter ... Click!

🤫 PICOLAY (64 bit) 🛛 🛛	/ersion: 2020-07-03 (c)	Heribert Cypion	ka	Set stacking parameters
File Image list	Stack operations	Options	Help	Noise suppression (030) 1
=31/0 [X]/[_] files in: D:\Work [X] Actino3_1250x0003.bmp	SLOCK WINDLUITE	nt parameters	Strg+F1	
[X] Actino3_1250x0004.bmp	Set stacking par	ameters	F2	
[X] Actino3_1250x0005.bmp [X] Actino3_1250x0006.bmp	Colour-based st	acking	F3	Filter: Smart 🗹
[X] Actino3_1250x0007.bmp [X] Actino3_1250x0008.bmp		-	F4	Prefer high / low frames
[X] Actino3_1250x0009.bmp		ate images	F5	Alian D. Task A Characteria D
[X] Actino3_1250x0010.bmp [X] Actino3_1250x0011.bmp		tions & resize	F6	Align Test 4 filter settings
[X] Actino3_1250x0012.bmp [X] Actino3_1250x0013.bmp	Auto-adjust brid	Intress	F7	Auto-enhance Back Go
[X] Actino3_1250x0014.bmp		e	F8	
PICOLAY Image wind	Add or subtract	1st image	F9	
[Full/half screen] [Fit to	Set background	/flat-field	F10	It Enhance [] Stacking parameter
[run/nun screen] [rices	Divide by 1st im	age	F11	
	Mount 2 images	side by side		panel
	Info: Change im	age parameters		No. of Concession, Name of Con
	Info: Depth map	s and 3D views		

#### Noise suppression

	g parameters suppression (030) 1		
Filter: Smart			
Prefer high	]/ 🔄 low frames		
Align 📃	Test 4 filter settings 📃 Auto-enhance 📃 Save depth map 📃	Back	Go

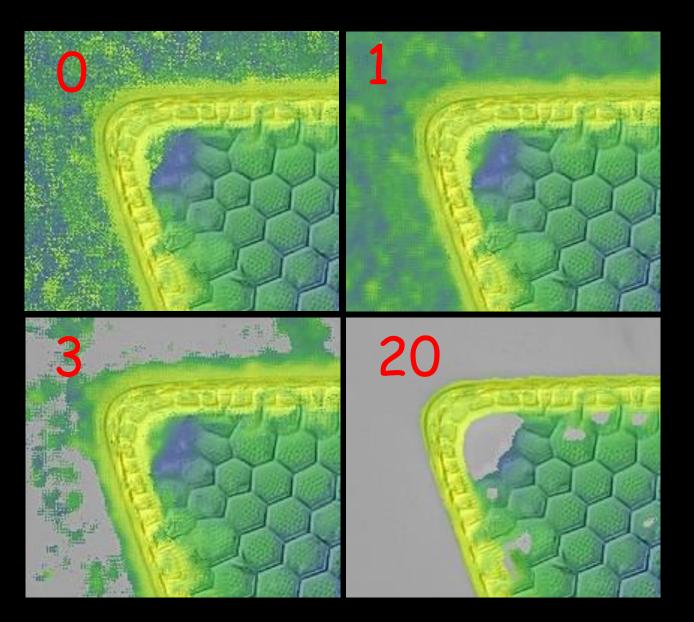
The stacking routine seeks structures, which are indicated by variations of pixel RGB-values. Variation can be caused by edges, peaks or noise. Noise suppression, can be helpful or mask structures. (Avoid noise by using low ISO values!)

At noise suppression = 0, PICOLAY tries to see structures everywhere. At values > 0, grey areas of the depth map indicate areas without detail.

#### Noise suppression (Test-stack diatom Triceratium)



## Noise suppression (Overlay of depth map & stacked image)

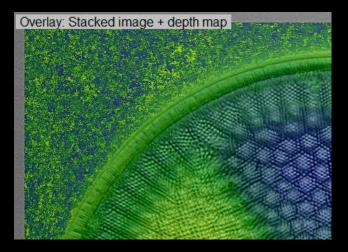


#### Narrow or widen patches

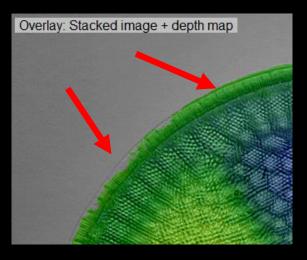
Set stacking parameters Noise suppression (030)	Set stacking parameters Noise suppression (030) 7
	Narrow or widen patches (-/+10)
Filter: Smart 🔽	Filter: Smart 🗹
Prefer high / low frames	Prefer high / low frames
Align Test 4 filter settings Auto-enhance Save depth map Back Go	Align Test 4 filter settings Auto-enhance Save depth map Back Go

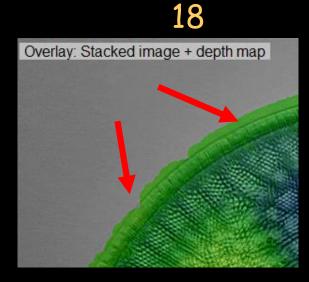
At noise suppression values > 1, patches with and without details will show up. The edges of those can be modified by narrowing or widening patches.

#### Noise suppression/patches: ExamplesS



Noise suppression: 0





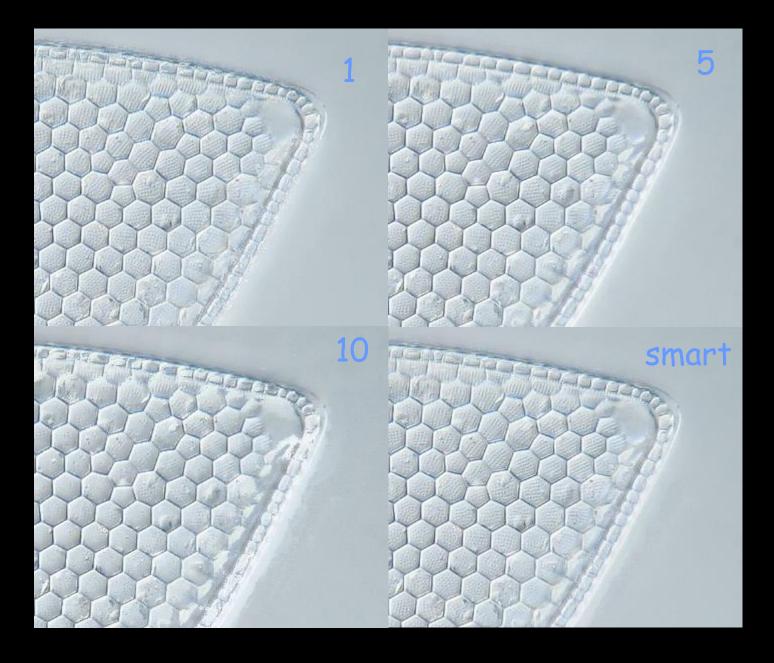
# Widen patches: +8

#### Filter: Smart (= flexible) or constant at 1 ... 10

Set stacking parameters Noise suppression (030)		
Filter: Smart 🗹	Filter: Smart 🗌	Fixed (110) <b>5</b>
Prefer high 🗌 / 🗌 low frames		
Align Test 4 filter settings Auto-enhance Save depth map Back Go		

The search for structures is done with three filters ('peepholes'): 1 = fine = close neighbourhood, 5 = medium neighbourhood, or 10 = coarse. 'Smart' automatically mixes the results of the filters. Alternatively, one can use a constant filter mixture 1 ... 10, and eventually combine the results.

#### Filter: Smart (flexible) or fixed to 1 ... 10



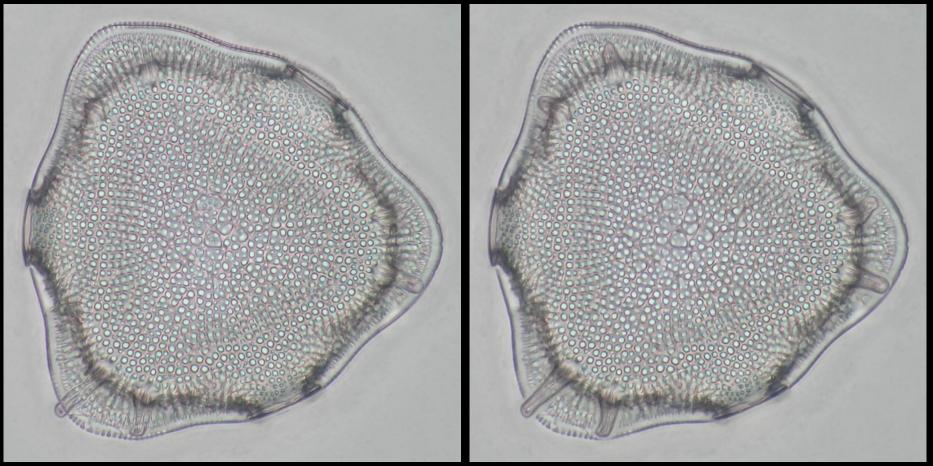
# Prefer high or low frames

	ng parameters suppression (030) 1			1
Filter: Smart				
Prefer high	/ 🔄 low frames			
Align 📃	Test 4 filter settings Auto-enhance Save depth map	Back	Go	

This parameter is useful with transparent objects. One can gradually enhance or suppress structures from deeper layers.

## Prefer high or low frames

#### Preparation Eberhard Raap



#### Preference: 0

#### 70 %

# Image alignment

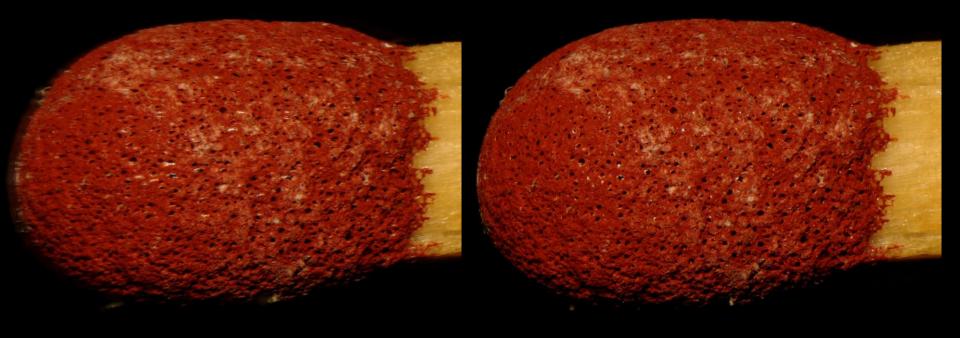
		g parameters suppression (030) 1		
	Filter: Smart   Prefer high 🗌	☑ ] / 🔲 low frames		
700 7	Align 🗌	Test 4 filter settings 📃 Auto-enhance 📃 Save depth map 📃	Back	Go

Close-up and macro images need alignment, microphotographs not always. You have to decide ...

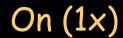
Alignment corrects (1) displacement, (2) rotation and (3) size differences. (1) is obligate, (2) and (3) can be set under Options. (Default setting: Rotation = off) Align 1x aligns 'on the fly', starting with the last image. Align 2x first aligns the images to that in the middle of the stack, saves them ('xy...') and then perform Align 1x as well.

#### Alignment

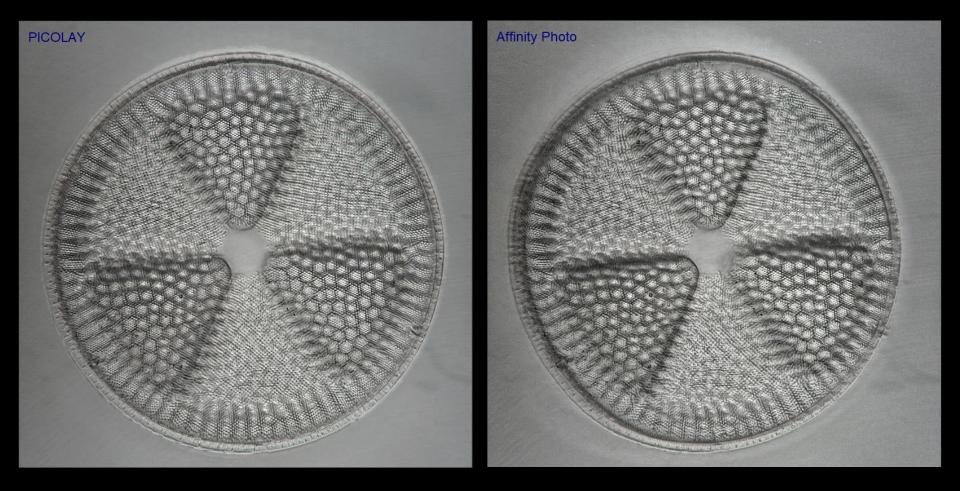
#### Macrophoto from binocular stereomicroscope







#### Alignment Microphoto 1250 x magnification



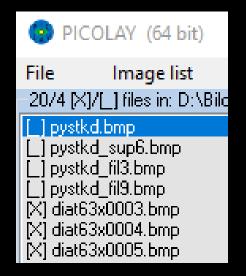


On (obligate !?)

#### Test 4 filter settings

	g parameters
Filter: Smart	
Prefer high	/ 🗌 low frames
Align 📃	Test 4 filter settings
	Auto-enhance Back Go

This feature tries parameter combinations to approach the perfect settings.



#### Auto-enhance

	g parameters suppression (030) 1
Filter: Smart	
Prefer high	]/ low frames
Align 📃	Test 4 filter settings 📃
	Auto-enhance
	Save depth map Back Go

- Enhances contrast, sharpness and colour saturation of the stacked images.
- For beginners, image enhance functions of PICOLAY do a better job.
- Do not use prior to cloning from originals to the stacked image!

#### Save depth map

Set stacking parameters Noise suppression (030)			
Filter: Smart 🔽			
Prefer high 🔄 / 🔄 low frames			
Align 📃 Test 4 filter settings 📃 📃			
Save depth map 🗌	Back	Go	

- A "must have" for 3D fans. 🙂

- Depth maps obtained with different parameters combinations may be combined...



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