# Processing dome image sets with relightab

## Calibrating the light positions

(to be written)

### Processing a set of images (Windows)

1) Move the images from the camera card to a folder on your PC (with an ID name)

The card appears as a drive – (safer to make it show filename list not icons of any sort) the quick way for one capture is control A, control X. click into destination and control V.

#### 2) In relightlab start a new project

📧 RelightLab		-
File View Help		
Home		
Images		
Align	RelightLab	Home Back Forward
Scale		Cotting started
Spheres	New project	Getting started
Lights		RelightLab is an application for creating relightable images and performing basic photostereo processing
Crop	Open project	from a set of photos. This guide will help you get started with creating, saving, loading projects, and
RTI		processing images.
Normals	Pecent projects:	RTI introduction.
Queue	stano religit	A brief introduction to Reflectange Transformation Imaging
	C:/Users/rti/Pictures/dome19NMNH/stone	
		Publishing on the web.
	tablet2.relight	Examining the many challenges of sharing online your RTI.
	C:/Users/rti/Pictures/dome19NMNH/	-
	tablet2	Documentation index
		Interface
		•RTI
		Normals
		File formats

### Select the folder you placed your images in

It will open the Images view:



3) Click on the Lights task on the left:

💽 RelightLab				—
File View Hel	p			
Home	Lights direction setup			
Images				
Align				1
Scale	Use reflective spheres	Load dome file	Select a recent dome 👻	Export dome
Spheres				
Lights				
Crop	Current lights configuration			
RTI				
Normals				
Queue	Filename:			
	Number of images:	1	- +	
	Notes:			
	Directional Lights	Image width:	0.00 - + mm	
	O 2D liebt noriking on a set or	Domo radium		
	U su light positions on a sphere	Dome radius:	0.00 mm	
	3D light positions	Vertical offset:	0.00 mm	

4) If this is your first use of relightlab click on "Load dome file" and select your dome's .dome file. It will remember it and in future you only have to use "Select a recent dome"

📧 RelightL	ab			-	×
File View	Help				
Home	Lights direction setup				
Images					
Align					
Scale	Use reflective spheres	Load dome file	C:/Users/rti/Pictures/dome19N▼	Export dome	
Spheres					
Lights					
Crop					
RTI	Current lights configuration				
Normals					
Queue	Filename:	00°0°°°°°°°°°			
	Number of images:	128			
	Notes:				
	O Directional Lights	Image width:	159.89 — + mm		
	<ul> <li>3D light positions on a sphere</li> </ul>	Dome radius:	500.00 — + mm		
	○ 3D light positions	Vertical offset:	0.00 – + mm		

It will then show the dome calibration information:

5) Now Click on the Crop task and move the crop box using the corner squares (not too tight)



6) Now click on the RTI task and you will see your output choices:

Relight.	ab				- 0	
File View Home	Help					
Images	Build relightable images					
Align						
Scale						
Spheres	Basis:	PTM Polynomial Tayture Man	HSH HemiSpherical Harmonics	RBF Padial Pasis Eurotions	BLN Rilinear interplation	
Lights			Themispherical Harmonics	Naulai Dasis Functions	billiear interplation	
Crop						
RII	C.I.	RGB	LRGB	MRGB	YCC	
Normais	Colorspace:	Standard	Albedo * Luminance.	Standard	Dedicated chroma	
	Planes:	Number of coefficients: 9   Number of dedicated chroma images: 1				
	Format:	<b>Legacy</b> .rti, .ptm	<b>Web</b> .json, .jpg	IIP .tiff		
	lmage quality:	Lossless		Quality:	95 - +	
	Web layout:	Images	<b>Deepzoom</b> Pyramidal, lot's of files.	<b>Tarzoom</b> Pyramidal, few files.	<b>ITarzoom</b> Pyramidal, one file.	
		Add openlime viewer code.				

7) A good choice for most objects is HSH, RGB, Web, Images as shown here:

📧 Relightl	ab				-	
File View	Help					
Home	Build relightable images					
Images						
Align						
Scale						
Spheres	Basis:	Polynomial Texture Map	HSH HemiSpherical Harmonics	Radial Basis Functions	BLN Bilinear interplation	
Lights			· ·			
PTI						
Normals	Colorspace	RGB	LRGB	MRGB	YCC	
Queue	compace.	Standard	Albedo * Luminance.	Standard	Dedicated chroma	
Stacac						
	Planes:	Number of coefficients: 9	•	Number of dedica	ated chroma images: 1	-
	- Miles			Number of dedice		
	Format:	Legacy	Web	IIP		
		.rti, .ptm	.json, .jpg	.tiff		
	Image guality:	Lossless		Quality:	95	
		Images	Deepzoom	Tarzoom	ITarzoom	
	Web layout:		Pyramidal, lot's of files.	Pyramidal, few files.	Pyramidal, one file.	
		✓ Add openlime viewer code.				
	Directory/File:	C:/Users/rti/Pictures/tablet3/hsh				
	Directory/File:	C:/Users/rti/Pictures/tablet3/hsh				
	Directory/File:	C:/Users/rti/Pictures/tablet3/hsh				
	Directory/File:	C;/Users/tti/Pictures/tablet3/hsh				
	Directory/File:	C:/Users/ti/Pictures/tablet3/hsh				
	Directory/File:	C:/Users/ti/Pictures/tablet3/hsh			Export	
	Directory/File:	C:/Users/ti/Pictures/tablet3/hsh			Export	
	Directory/File:	C:/Users/rti/Pictures/tablet3/hsh			Export	

You can build RBF versions and compare them side-by side to determine which format you want to use by normally.

- 8) Edit the destination using the Directory/File ... button to point to a folder in your images folder. Here we have called it hsh.
- 9) Save your workspace/project now with File->Save Project and put the .relight file into the same folder. This will let you easily load it of you need to make other outputs afterwards.
- 10) Click on the Export button at the bottom to build your output. You will see the Queue task pane with a progress bar (this takes a couple of minutes):



11) Once it has completed you can view your output by clicking on this button on the right side of the task:

HSH27 (RGB) web: images C:/Users/rti/Pictures/tablet3/hsh		¥
Done	100%	

12) View your image in your web browser:



To open the html file afterwards the easiest way is to run relightlab and select the top View->View RTI in Brower option. Select the folder containing it (in this case the hsh folder).

15 Output other types of data if needed. You can go back to the RTI task and select other outputs. For example HSH or PTM "legacy" format as a .rti file which can be loaded into RTIViewer. RBF can show more details for some objects. Different web outputs can be made if your image is very high resolution (Deepzoom and Tarzoom).

If you need normals or 3D maeshes click on the Normals task which can produce a jpg normals image or a ply polygon mesh (see documentation for details).



Normals jpg produced for this tablet test.ply - 3D Viewer



This is a mesh viewed in microsoft's free 3D Viewer.