

# Multiple image alignment

When a low magnification, high resolution overview is needed, it is possible to stitch multiple pictures to create one large overview. To stitch multiple pictures together the program 'Autostitch' can be used. In this document you will find information on where to get the program, how it works, and what the options and limitations are.

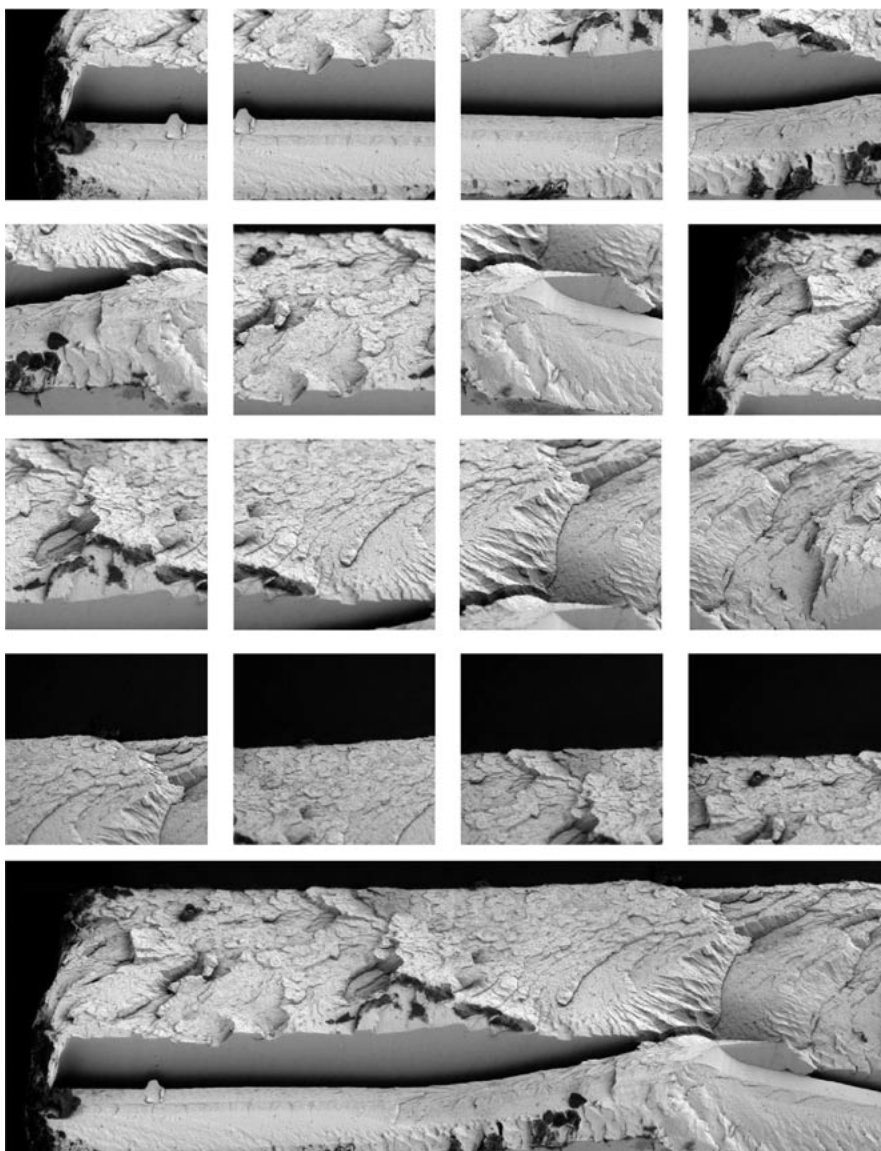
## How to get Autostitch

The program is developed by the University of British Columbia UBC. A free demo version of the program can be downloaded from the following website: <http://cs.ubc.ca/~mbrown/autostitch/autostitch.html>. Also the full commercial packages can be downloaded from this site.

There are many other free of charge programs that can be downloaded from the internet. Several are tested and Autostitch is found to work the easiest and give the best results.

## Acquiring the images

The stitched overview is made to display a lower magnification overview. A low magnification should be chosen to make the images to limit the number of pictures that have to be stitched. Use minimal 10% overlap between the images. To make sure an image of the whole sample is acquired the green arrows on the Phenom™ can be used. In this way the Phenom will only move in one dimension and a series in straight lines or columns can be formed.



**PHENOM™**



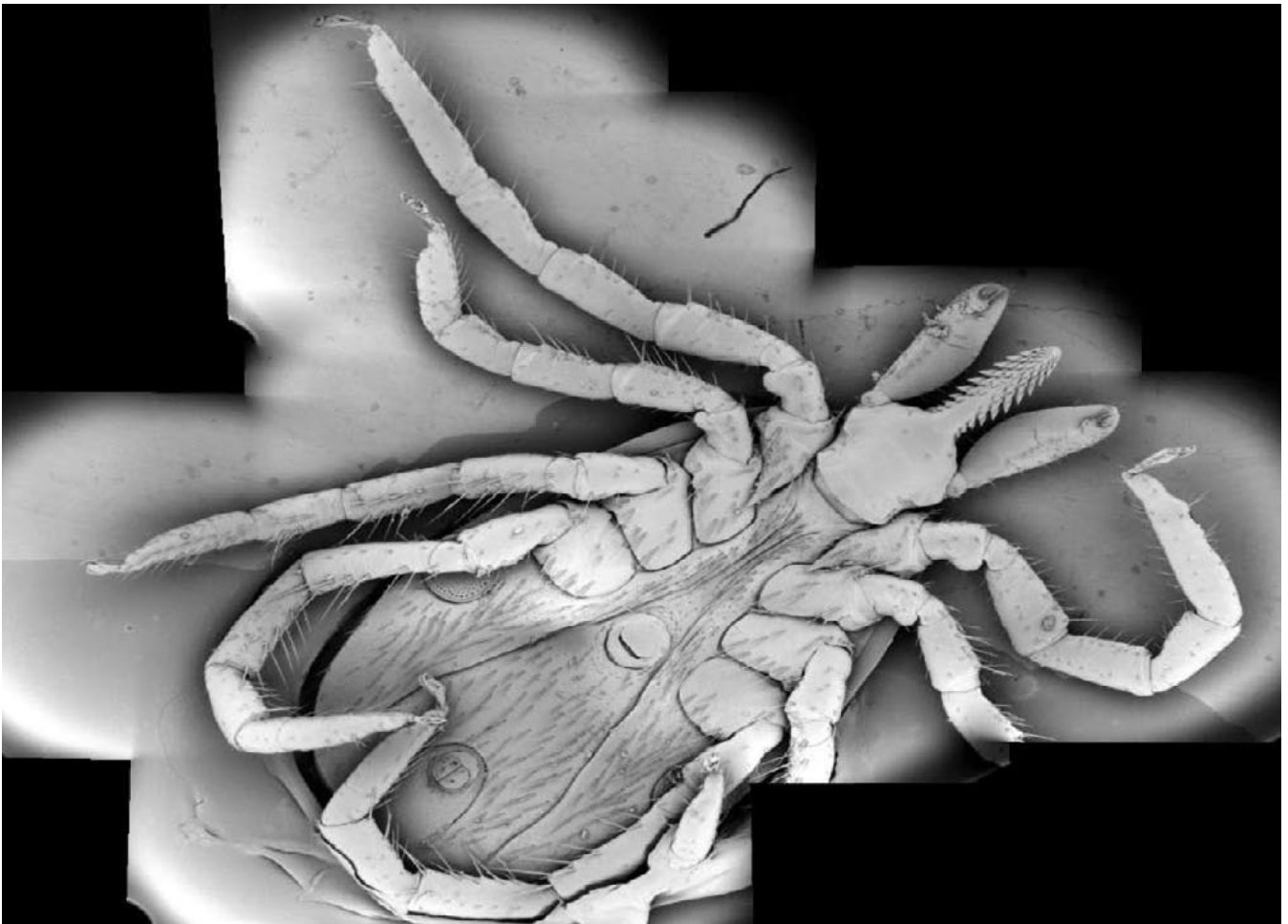
**How to use Autostitch**

To make a new panorama choose 'file' and 'open'. Select the images needed for the panorama all at ones, the program will do the rest. When a horizontal overview is made the program will define the order of the pictures and the overlap. When a vertical or square overview is stitched the black Phenom data bar should not be saved with the picture. If the data bar is accidentally saved it has to be removed, otherwise the program will display the following message: 'no match was found' or the stitch quality will be poor. The picture quality of the new stitched picture is standard 1400 x 1400 pixels. To optimize the result, all available pixels should contribute to the image. Go to Edit/Options, set the parameter 'output size' in the left upper corner to 'scale' and set the pull down menu at 100%. This way no information will be lost using the program. Additional user information can be found in the read me file included in the download.

**Note:**

When a two dimensional stitch is made the data bar should be removed. To do this, crop the image with an editing program. Microsoft office picture manager is a program that comes with all office packages. If pictures are cropped with this program the size of the data bar is depending on the picture quality:

| Resolution | Data bar width |
|------------|----------------|
| 456        | 28             |
| 684        | 41             |
| 1024       | 61             |
| 2048       | 121            |



Overview of a tick

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**Phenom-World BV**  
Dillenburgstraat 9E  
5652 AM Eindhoven  
The Netherlands

**Find your Phenom-World contact information at**  
[www.phenom-world.com](http://www.phenom-world.com)

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