ARRAY TOMOGRAPHY
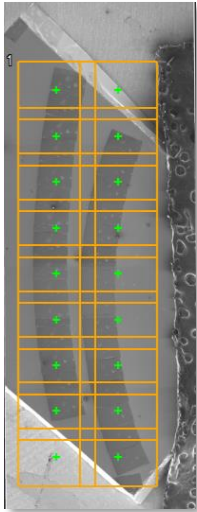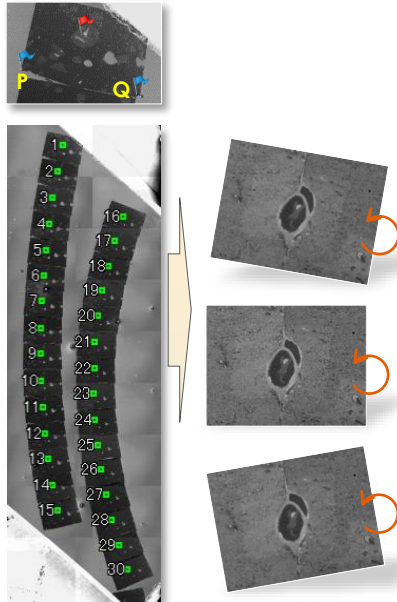
SEM Supporter

Step 1

Wide area

Collect a montage of the entire sample.

Step 2

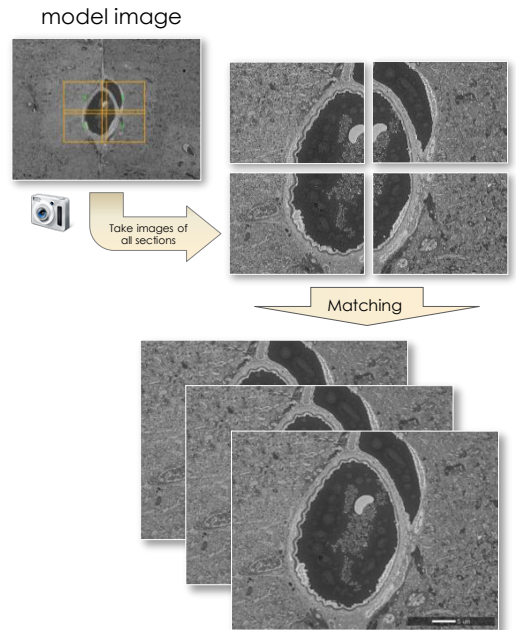**Sections at low magnification**

Take images for each section with the same orientation using Individual alignment points.

Step 3

model image

Take images of all sections

Matching

Cell at high magnification

Take images for the region of interest with the same orientation as the model image with auto scan rotation.
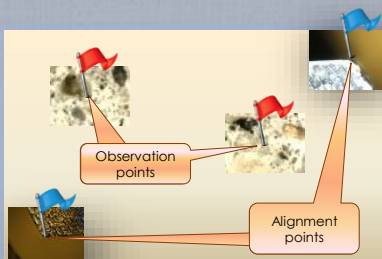
By courtesy of JEOL Ltd.

CLEM
Correlative **L**ight **E**lectron **M**icroscopy

Link coordinates from OM image for navigation in the SEM with simple P-Q alignment.

Digital Camera

Observation points
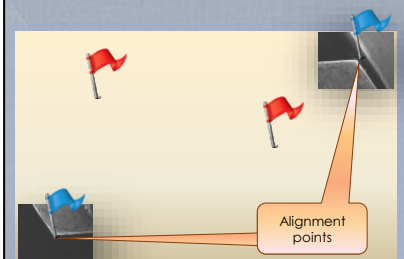
Alignment points

Output

Import

Image

Images with observation conditions

Motorized Stage

OM

Alignment points

Move the stage position to the observation points after setting the alignment.
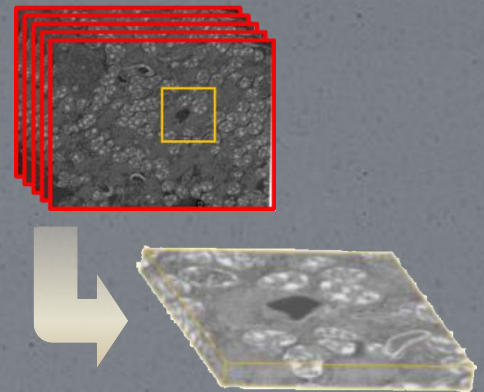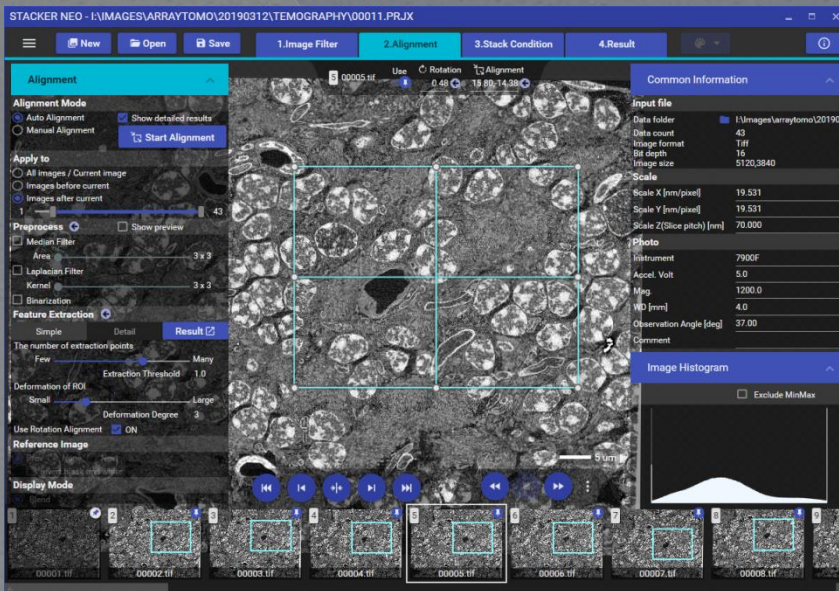
SEM

By courtesy of JEOL Ltd.

Stack N Viz

3D Reconstruction

StackerNEO

StackerNEO is the application software that reconstructs the sliced images systematically obtained.


In Array Tomography, the observation target can slightly rotate.
StackerNEO corrects this rotation and aligns based on a feature matching algorithm.

By courtesy of JEOL Ltd.

3D Visualization

Visualizer-evo

The Visualizer-evo includes volume rendering, multi-slicing, isosurface plotting, volume segmentation, and movie maker tools with a variety of 3D volume representation and 3D measurement options (length, angle, etc.).
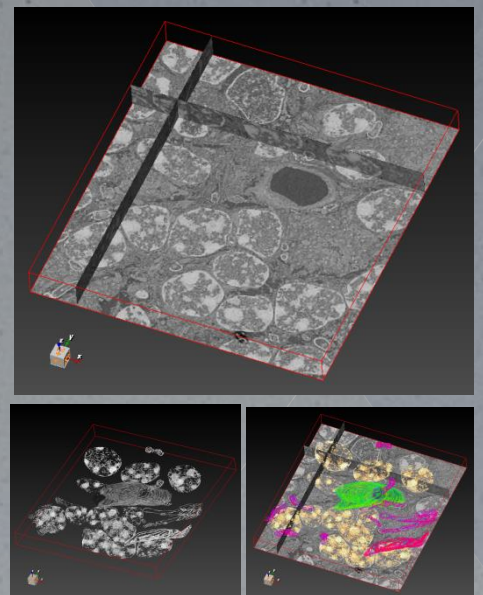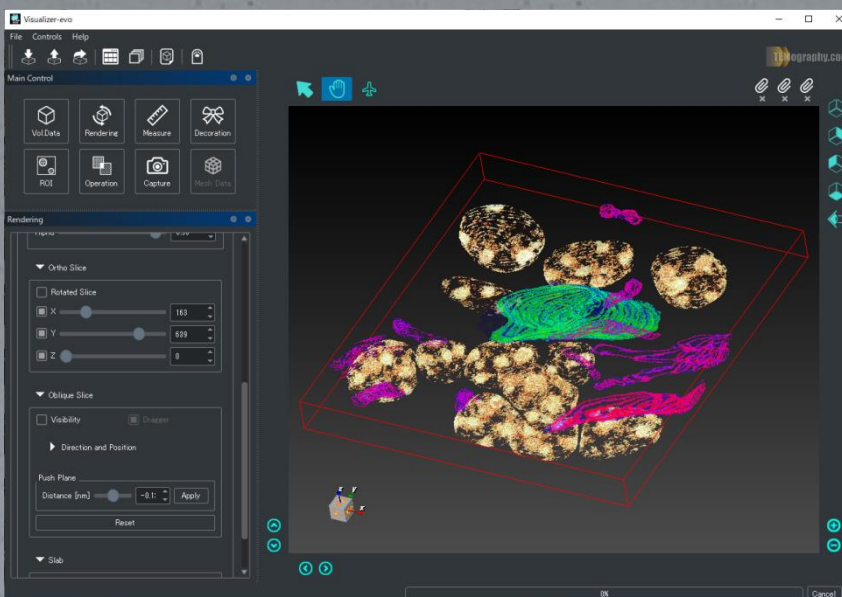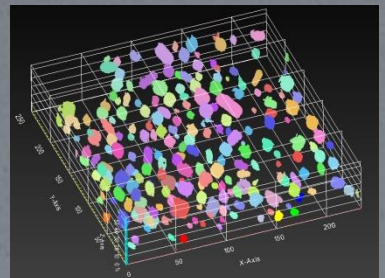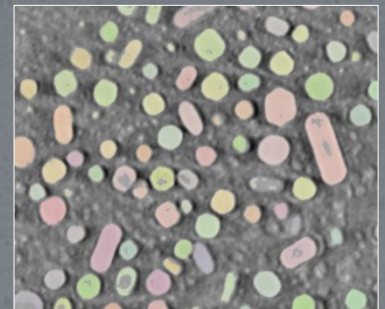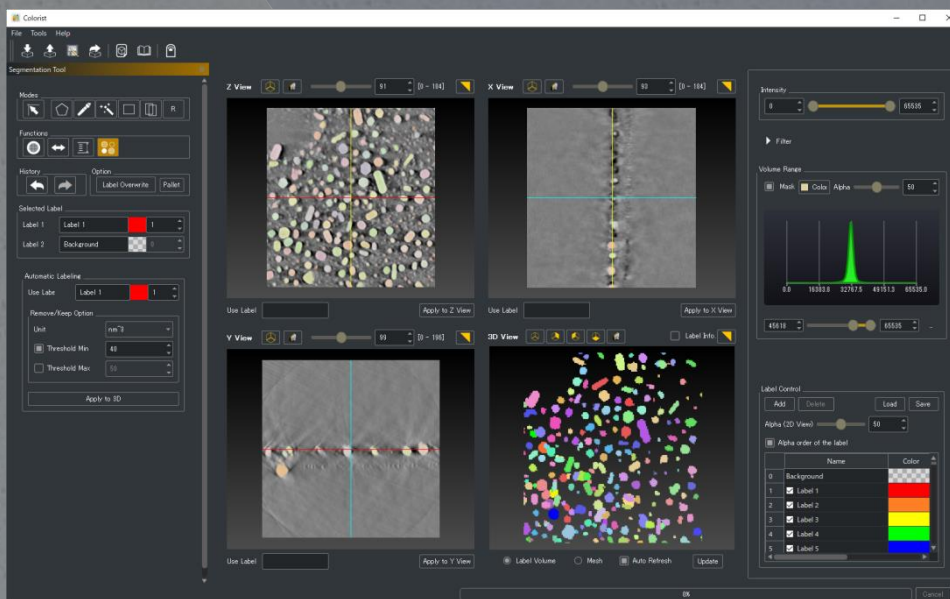

By courtesy of JEOL Ltd.

Colorist

Segmentation

Region of Interest Extraction Software

Colorist allows selection and colorization of multiple regions of interest to form 3D volume images with the intuitive user interface.

Segmentation refers to a function that extracts arbitrary regions of interest (organization and structure) from Volume data.

Difference with Visualizer-evo
A volume segmentation function is included in Visualizer-evo, which is suitable for extracting single defined features very quickly. Colorist makes it possible to extract multiple independent regions of interest and ideal for volumes containing many different features.

By courtesy of JEOL Ltd.

Volume Calculation

The measurement result is calculated for each volume
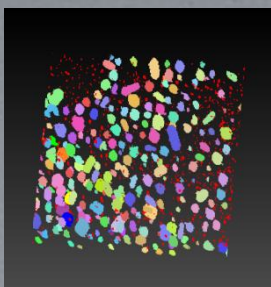
	Label	Color	Num of Voxel	Num of Voxel (On Border)	Volume	Average Intensity	Roundness	Spherical Radius	Flatness	Elongation	Perimeter	Feret Diameter
1	Label 1		2623	0	5347.56	-	-	-	-	-	-	-
2	Label 2		1021	0	2081.53	53551.3	0.8512	7.92073	1.15371	1.37414	926.208	25.7063
3	Label 3		705	0	1437.3	55671.3	0.887181	7.00088	1.16908	1.44064	694.23	21.9258
4	Label 4		269	0	548.416	52212.6	0.866787	5.07778	1.40194	1.58535	373.805	16.0891
5	Label 5		1018	0	2075.42	54963.9	0.939376	7.91296	1.08738	1.34475	837.623	20.4065
6	Label 6		923	0	1881.74	52108	0.933943	7.65873	1.29201	1.17741	789.23	18.8502
7	Label 7		226	72	460.751	50267.6	0.827648	4.79136	1.87773	1.44797	348.564	15.4779
8	Label 8		833	0	1698.25	50984.8	0.882974	7.40124	1.09291	1.21431	779.599	17.752

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