BRUKER MICRO-CT ACADEMY

Innovation with Integrity

In this issue:

● Welcome

Thanks for joining us again in the third Bruker microCT Academy of 2017. This month we hosted our annual User Meeting in Belgium's capital Brussels, where we also introduced the newest version of CTVox. For those who could not attend we'll highlight the novel features in this newsletter.

● Understanding the transfer function editor

CTVox offers a transfer function editor for fast and flexible creation of images with vivid and revealing color and texture. The transfer function allows to map grey values in the volume dataset with the parameters of emission color and opacity through different components or channels. Note if the color channels are linked, only 2 channels are available: L (luminescence or intensity) and opacity. One single color can be applied by assigning a base color. When applying different colors 4 channels are available : R, G, B, and opacity. These channels can be combined in order to create any desired color scheme for realistic visualization. *Method note MN102* describes in detail how to conveniently use this transfer function editor.

● Create an rgb marker

Now from CTVox 3.3 there is the possibility to choose an RGB marker from a color panel and place it at a specific point on the transfer function editor window. The R, G and B channel will be adjusted simultaneously to meet the chosen color at the specific point. *MN103* shows how to create an RGB marker from any color. Note that the smoothest results are obtained when using splines, which might combine unexpectedly when using multiple RGB marker.

● Subvolume

Multiple volumes can be loaded in CTVox. When working with multiple volumes the Volume Manager pane is central to present additional information for each volume. In addition to the visibility of the volume, the volume label, the volume weight and the volume base color, now you can also adjust the cutting/clipping mode: the effect of the cutting/clipping shape can be set per volume to cutting, clipping or neither through the drop down menu, as indicated with the arrow.

The subvolume cutting and clipping functionality allows to assign different opacity and color schemes to subvolumes representing 3D distribution of morphometric parameters across the scanned volume, but also to different parts of the dataset, simply by loading the same volume twice. Some more examples can be found in *MN103*.
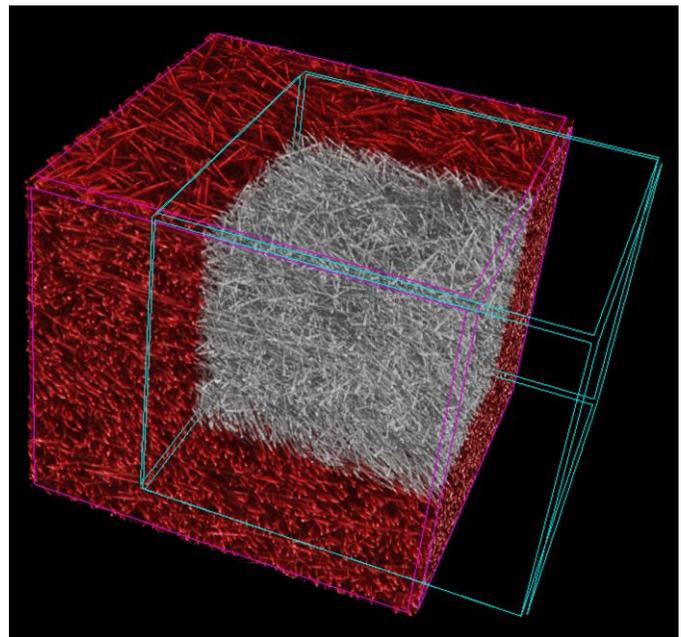
Different colors and clipping/cutting functionalities have been assigned to different volumes of the same scanned volume (glass fibers). Subvolume 2 is red and the part indicated with the blue box is *cut*, to reveal subvolume 1 which is grey and has *no cutting or clipping* applied to it.
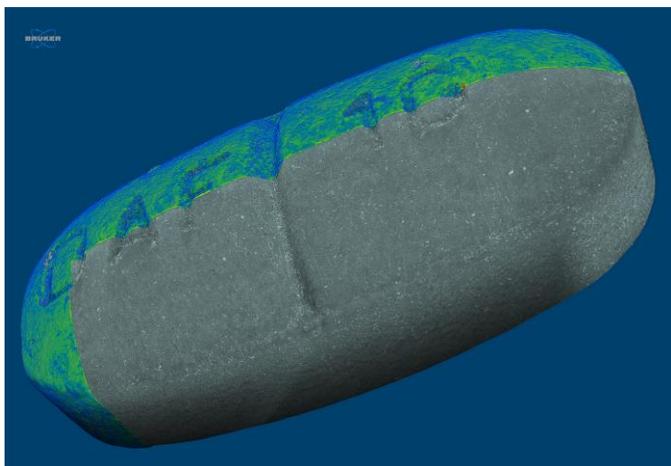
3D rendering of paracetamol tablet. The coating has been color-coded for thickness. 5 µm voxel size, 50 kV, no filter, 11mm sample size.

● Bruker microCT news

Bruker microCT User Meeting 2017 took place this month in the heart of Europe, Brussels. With more than 100 attendees and more than 80 scientific contributions, this year's event turned out to be a great success again! The abstracts and the group photo are now on the website! Check them out!

We would like to congratulate Jana Goyens from the University of Antwerp. Her talk on "Comparison of conventional and synchrotron X-ray microCT scanning of thin membranes in the inner ear " was selected by the participants as the best oral presentation. The best poster came from Christoph Schürmann from Goethe University Frankfurt. The visualisation work from Javier Alba-Tercedor from the University of Granada and Carla Geeroms from Catholic University Leuven were selected for the respective picture and movie awards. Congratulations to all and thank you to all users for participating in the voting.

If you would like to learn more on this edition's new features of SkyScan software CTVox, we also organize a user exclusive live demonstration webinar on July 12th. Register now!

● Upcoming events

Bruker microCT will participate with an exhibit in the forthcoming conferences. Please click the link below for more information. We hope to see you there!

URTEC	Jul. 24 – 26	Austin, USA
SCA	Aug. 28 – Sep. 1	Vienna, Austria
ESB	Sep. 4 – 8	Athens, Greece
JASIS	Sep. 6 – 8	Chiba, Japan
ASBMR	Sep. 9 – 12	Colorado, USA
WMIC	Sep. 13 – 16	Philadelphia, USA
Entomology	Nov. 5 – 8	Denver, USA

● Image of the month

This month's image of month is a little taste of the user meeting, the best picture awards: Javier Alba-Tercedor, University of Granada '*Honey worker bees*'!