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● **Welcome**

Welcome to the first issue of the Bruker microCT Academy newsletter in 2017! On behalf of the entire crew, we wish all our users good health, happiness, and success this year. In this issue, we address the possibilities and advantages of automated scanning of samples using the pushbutton operation option of the SkyScan 1275, which are described in more detail in the method note. The registration for 2017 MicroCT User Meeting is now open, discover more details in below!

● **Automated scanning – why?**

More and more, micro-CT is being used as a tool in elaborate studies that include a large number samples, for quality control in a production environment, or for the digital preservation of large collections of artefacts or specimens. All of these applications require a high sample throughput, with as little of individual sample settings as possible. Furthermore, the increasing availability of the technology makes it accessible to many new users, including undergraduate students and staff members without technical background. This creates the need for an intuitive, straight-forward workflow.

The SkyScan1275 desktop micro-CT scanner has the capability to start scanning a sample with a single push of a button. The same push will automatically start the reconstruction of the acquired projection data, and even launch one of our visualization packages if required.

● **Automated scanning – how?**

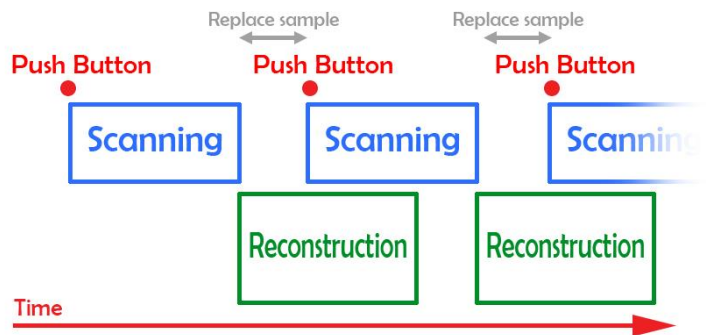
The pushbutton workflow in the SkyScan1275 is set up in a way that a few basic scan setting need to be defined by the user. These settings include the important selection of filter and voltage, defining the acquisition parameters such as the magnification, an appropriate rotation step, an image format and a destination folder for all following automated scans.

The same counts for the reconstruction. The user defines a set of reconstruction parameters for a certain sample type, and can save this as a protocol. If different types of samples will be scanned, different reconstruction protocols can be defined and used whenever necessary.

After all settings are defined, the green pushbutton of the SkyScan1275 can be used, and all there's left to do is push, sit back, and watch the results being produced.



Click the image to see the movie of the entire process, which only takes a few minutes with the fast scan on SkyScan 1275.



Scanning and reconstruction overlap, ensuring an optimal efficiency and almost no dead time between different scans.

The automated scanning procedure can work simultaneously with the reconstruction and analysis software, allowing an optimized workflow, with as little dead time as possible. Just instants after the acquisition procedure is finished, scanning of the next sample can be started.

A detailed workflow to enable and use pushbutton operation on the SkyScan1275 can be found in '[MN100 Automated scanning using the SkyScan1275 Pushbutton operation](#)'

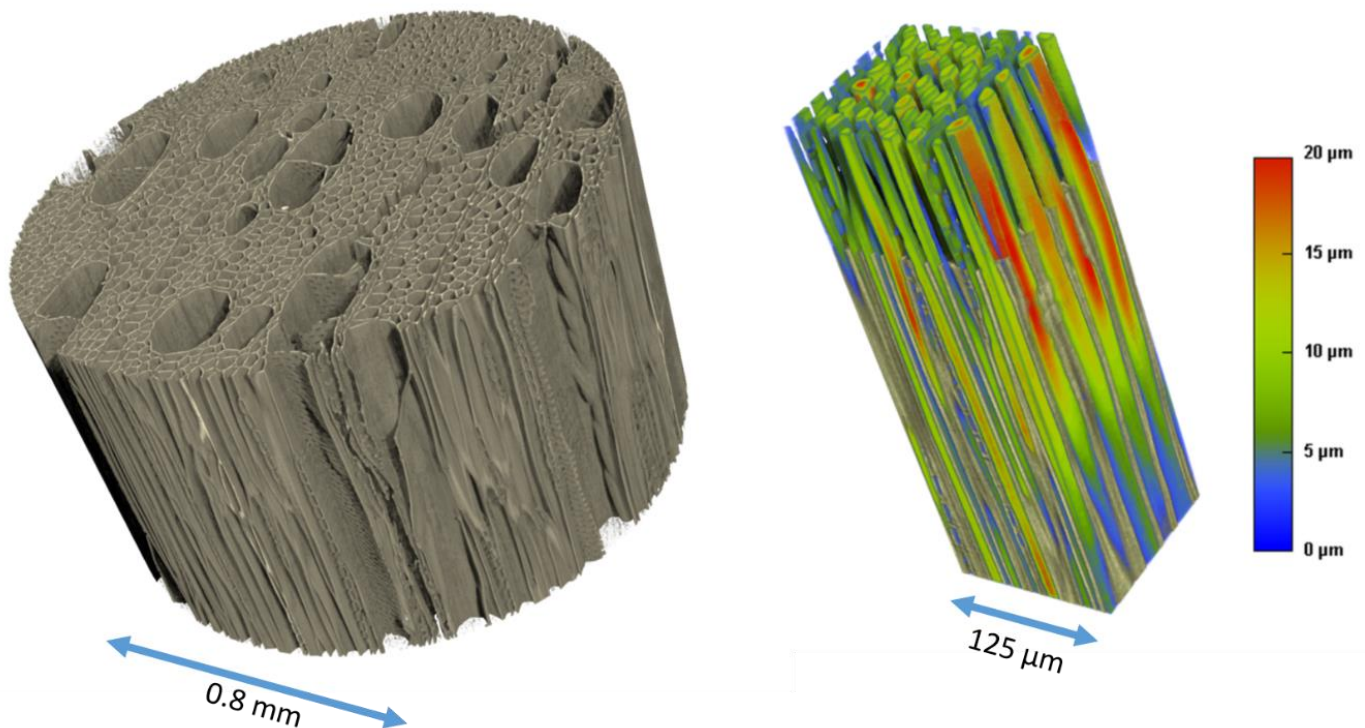
### ● Bruker microCT news

The registration for the microCT user meeting is now open. Find out how to earn up to 3 free nights in Brussels on [our website!](#)

### ● Image of the month

Left: Volume render of a high-resolution scan of a piece of wood. The voxel size is 200 nm, scanned using the SkyScan2211.

Right: sub-volume from the same dataset, where the vascular network of the wood is color-coded to local thickness.



### ● 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!

- [ORS](#) Mar. 19 – 22 San Diego, USA
- [IADR](#) Mar. 22 – 25 San Francisco, USA
- [AACR](#) Apr. 01 – 05 Washington DC, USA
- [EMIM](#) Apr. 05 – 07 Cologne, Germany
- [Interpore](#) May 08 – 11 Rotterdam, The Netherlands
- [ECTS](#) May 13 – 16 Salzburg, Austria
- [ATS](#) May 19 – 24 Washington DC, USA
- [ICTMS](#) Jun. 26 – 30 Lund, Sweden