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● Welcome

We hope all of you are enjoying a relaxing summer! To ensure that you can benefit even more from the sunny weather, we will in this issue of our academy newsletter explain how you can let your scanner in an automated and independent way using a sample changer!

● Automated and high-throughput imaging

Automated and high-throughput microCT imaging and analysis is becoming more and more important as the technology is being used more often as a tool for elaborate studies on many samples, for quality control in a production environment or digitalization of collections. At the same time, the increasing availability of the technology makes it accessible to a lot of new users, including undergraduate students and people without technical background, creating the need for fast, simple and straight-forward solutions.

In an earlier issue of our microCT academy newsletter (Issue 1, 2017) the option for a push-button operation of the SkyScan 1275 was discussed, which allows to run a pre-programmed sequence of scanning, reconstruction and data visualization or analysis by a single push of a button. This approach offers already a high degree of automation and significantly increases throughput. Still, a new sample needs to be mounted in the scanner manually after each scan, requiring an operator nearby the system the entire time.

A next step in automated scanning, and discussed in this issue, is the use of an automated sample changer, which replaces a scanned sample with a new one automatically, allowing independent operation of the microCT scanner without the need for a full-time presence of an operator.

● Use of a sample changer

Several of our microCT systems (currently the SkyScan 1272, SkyScan 1275 and SkyScan 2211) can be extended with an automated sample changer that loads a new sample to the scanner automatically once the

previous scan has ended. This sample changer can be located either inside the scanner (SkyScan 2211), or mounted on top of the scanner outside the shielded area (SkyScan 1272 and SkyScan 1275). The number of samples that can be loaded in the sample changer varies between 8 and 16 depending on the model and size of the samples installed. Using the sample changer, continuous scanning of samples is made easy using either a predefined or an automatic scanning protocol. [Method note 104 SkyScan 1272 sample changer](#) explains step by step how to do this.



SkyScan 1272 sample changer loaded with different samples.

● 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!

- [SCA](#) Aug. 26 – 31 Trondheim, Norway
- [ESB](#) Sep. 9 – 13 Maastricht, The Netherlands
- [WMIC](#) Sep. 12 – 15 Seattle, USA
- [ASBMR](#) Sep. 28 – Oct. 1 Alabama, Canada
- [Process Mineralogy](#) Nov. 19 – 21 Cape Town, South Africa

● Bruker microCT news

For those who missed our last issue, we are proud to present our new nano-CT system, the SkyScan 2214. The SkyScan 2214 is an innovative system that generates sharper images with outstanding precision. It offers unprecedented, ultra-high resolution for small and large objects, which makes nano-CT practical and truly useful for industrial and academic research. Find out more about the specs at [the official website](#).

New software versions have been released for NRecon as well as several control programs. Please download your copy from the [Software Updates page](#).

● Image of the month

Volume rendered image of a human molar, with high magnification inset of the dentin showing dentin tubules in blue, scanned with the SkyScan 2214 at 350 nm voxel size.

