In This Issue

New image analysis options

We currently have the latest industry leading Volume Graphics VGStudioMax 3.0 software, including all available add-on modules for advanced 3D data analysis, including the brilliant new foam structure analysis, among many other great new features.

New to our facility is also the advanced 2D and 3D image analysis software MIPAR, check it our here and come over and use it in our analysis facility (also for 2D images from microscopes for example).

We also have Avizo Fire 9 for users familiar with this software, which has new functionality for skeletonization and pore network modelling.

CT Data bank

This new venture works like a bank for long term storage and sharing of your CT data.

There are different options based on if you want to keep your data private or share it with others, and the database of open-access scans will allow anyone to purchase CT data, much like morphosource, but for any and all kinds of CT data, also materials science, engineering, geological and other types of data.

http://blogs.sun.ac.za/ctscanner/imageanalysis/

Welcome

The year is closing down fast, but there is so much to do still. So just keep calm, take a break from your hectic schedule and have a look what's new at your favourite CT facility. If you have some money left in your research budget for the year, talk to us I am sure we can help you to spend it wisely.

Please take the time to share this newsletter as much as you can, we really appreciate it.

Live lizard scanning

The latest paper from our facility describes a methodology to make use of non-medical microCT scanners for scanning of live lizards, useful for ecological studies (and useful for the lizards in question, as they are not dissected and actually released again into the wild). In addition, the image quality and dose comparisons reported may be useful for other studies outside of biology/ecology as well. Read more here, in the recently accepted article in "Methods in Ecology and Evolution" **http://onlinelibrary.wiley.com/doi/10.1111/2041-210X.12661/pdf**

For more information on the evolutionary research of this type of lizard and its body armour, you can find another recent article here: **http://onlinelibrary.wiley.com/doi/10.1111/evo.13062/epdf**

Live lizard scanning protocols have now been developed for laboratory microCT scanners, making it possible to scan lizards in natural positions such as the tail-biting position above.

Prize winning image

The 1st prize in the image competition at the ToScA conference 2016 has come to Stellenbosch – and was awarded for the image of a brittlestar with babies inside. The image was generated in Volume Graphics VGStudioMax, with nanoCT scan data acquired at two resolutions, one for a full-body scan and one for a high resolution volume-of-interest scan of the region with the babies. The work forms part of a student project of Jannes Landschoff from University of Cape Town.

The image forms part of a recent publication of our facility:

http://www.sciencedirect.com/science/article/pii/S0168583X16303433

Read more about it and download your own brittlestar microCT data sets:

https://gigascience.biomedcentral.com/articles/10.1186/s13742-015-0093-2
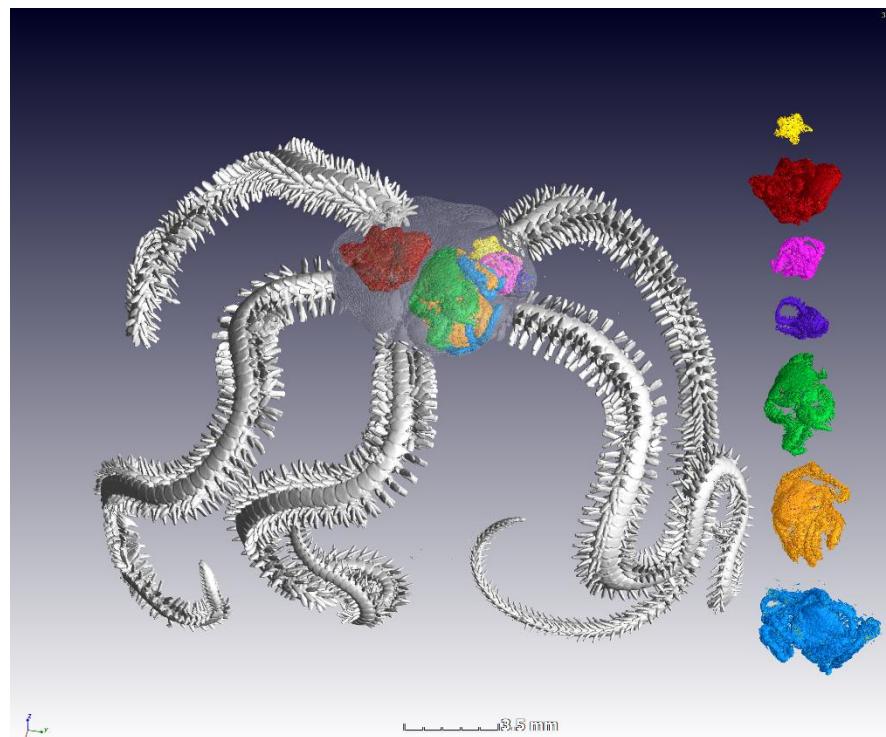
This image of a brittlestar with babies inside won the 1st prize in the image competition at ToScA – the conference of Tomography for Scientific Advancement, held in Bath in the UK recently.

Special offers: analysis

We offer currently the following special deals:

1. ***Data bank: deposit your scans for long term storage here***

*http://blogs.sun.ac.za/ctscanner/imageanalysis/*

2. **Get all your old scan data segmented NOW:**

3D Data analysis from any global location via ftp server: upfront quotes with price guaranteed, quick turnaround, manual image segmentation from US$100 per volume depending on complexity/data quality.

The analysis facility consists of three high spec PCs with 3D image processing softwares and on-hand assistance, for getting the most out of your data. Normal rates are equal to the hourly scan-rate for half a day (eg. R750 for external academics for half a day) or R3500 for a month any time.

Guess-the-X-ray

The solution to the previous "Guess the X-ray" can be found here: http://blogs.sun.ac.za/ctscanner/x-ray-image-solution/ . The question this month is a bit easier, what is the image below? And why do you think we want to make high resolution 3D data of it?
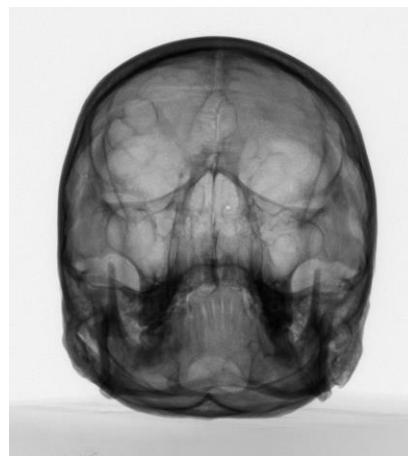
Can you see what this X-ray is ? Hint: this is what happens if you don't pay for your scans

Acknowledgements

ORION NanoFab

Take advantage of the high resolution performance of your ORION NanoFab: with imaging resolution of 0.5 nm
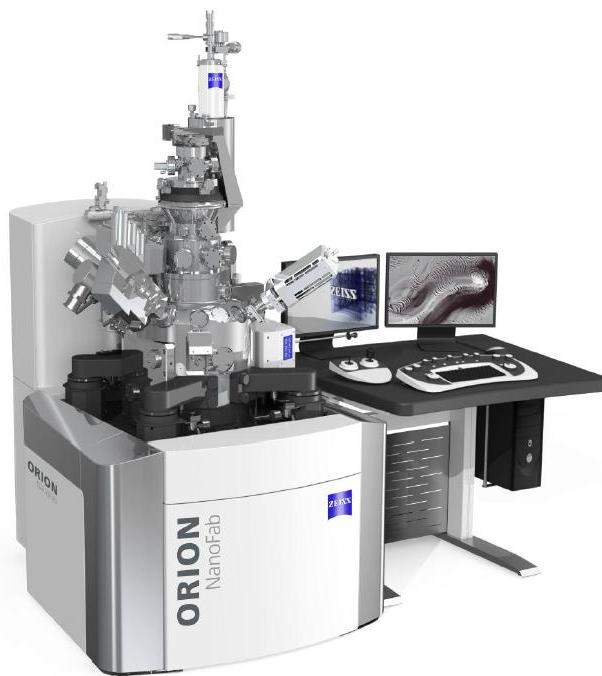
- Fast machining of sub-10 nm structures with neon and helium beams
- Three beams in one instrument allows greatest flexibility, speed and precision
- Avoid deposit contamination using neon and helium beams
- Fabricate sub-10 nm nanostructures with speed and precision
- 5-10x greater depth of field than **FE-SEMs**
- Limit diffraction to gain smaller spot sizes, and decrease particle scatter to increase resolution with neon and helium beams due to the heavier ions

www.zeiss.com/microscopy

ZEISS

We make it visible.