CT FACILITY STELLENBOSCH

CT NEWS

The Stellenbosch CT scanner facility newsletter

"more than just a scan"

Jan/Feb 2016

In This Issue

Recent interesting 3D prints (clickable links)

Teenage mutant ninja turtle
http://blogs.sun.ac.za/idea2product/2016/01/11/one-of-the-toy-options-for-3d-printing-training-participants/

Chameleon head 3D print
http://blogs.sun.ac.za/idea2product/2015/11/17/chameleon-head-printed-from-ct-scan/

Frog skeleton
http://blogs.sun.ac.za/idea2product/2015/11/16/frog-skeleton-printed-from-fossil-ct-scan/

Engineer Design
http://blogs.sun.ac.za/idea2product/2015/11/16/engineer-design/

Prototypes
http://blogs.sun.ac.za/idea2product/2015/11/03/prototypes-printed/

In-situ tensile testing

A relatively new and very unique development, we now offer micro tensile testing for small samples, ideally for in situ X-ray tomography of materials under tensile or compression loads. Loads up to 500 N allow researchers the possibility to view for the first time the locations of failure and cracks being formed. Read more about it here:

http://www.spectroscopynow.com/details/news/152116f3787/CT-Scanner-Facility-at-Stellenbosch-University-applies-Deben-tensile-stages-in-X.html?&tzcheck=1

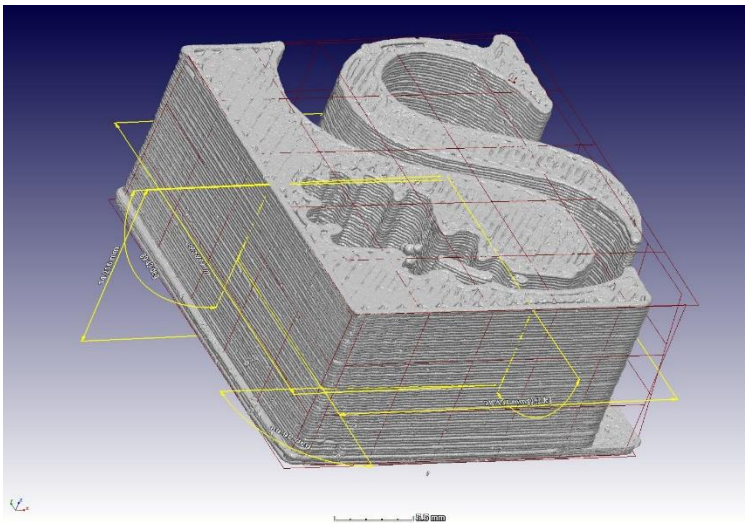
Welcome

Happy new year to all our clients and colleagues! The reason for the early newsletter this month is to let you know we are here and ready for an awesome 2016. Book your work early to prevent bottlenecks later in the year and see our latest examples below to get an idea what you can use this technology for. Thanks for the support!

High resolution analysis of 3D printed parts

With the easy access to a local Idea2Product 3D print lab, it is now possible to make any idea a reality in plastic. 3D printing and additive manufacturing is a fast growing technique in which any 3D model can be printed even in metals. In this publication a simple procedure is described whereby X-ray CT can be used for analysis of 3D printed plastic parts such as a university logo. The same principles can be used to quantitatively assess the quality of any 3D printed part in any material. Read more in the full paper which is accessible for this week at no cost, download it now:

http://online.liebertpub.com/doi/pdf/10.1089/3dp.2015.0015



CT dimensional analysis of a 3D Printed Stellenbosch University logo

Prize winners

Some of the results produced by our CT-scanning facility did not go unnoticed at the annual New Voices in Science competition organized by the International and Postgraduate Office at Stellenbosch University. New Voices in Science invites PhD students and recent graduates to present their research using various platforms (popular science talk, science photograph, 60-second video clip and popular science article) and impress a general audience. Chris Broeckhoven, postdoctoral fellow at the Department of Mathematical Sciences and the Department of Botany and Zoology, amazed the jury with his winning popular talk titled "Underneath the Dragon's scale" in which he explained the unique body armour of the South African Armadillo lizard using Micro-CT images generated at our facility. Chris also got a prize for the best 60-second clip, showing a behind-the-scene of live lizard Micro-CT scanning. Anina Guelpa, postdoctoral fellow at the Department of Food Science, was a finalist in the writer's category with her article "Putting mealie pap under the spotlight". For more information: http://www0.sun.ac.za/international/current-students/postgraduate-students/postgraduate-skills/new-voices-in-science.html

Upcoming events

The first free training course for 2016 is scheduled for 1st of February at 9:00-12:00. This course is aimed at introducing new users or potential users to CT scan technology, applications and project planning for best results. Basic software functions are described for self-analysis. Booking is essential as places are limited. Commercial clients are also welcome. Book by email anton2@sun.ac.za

The International Geological Congress (IGC2016) will be held in Cape Town this year. Exciting news is that there are two relevant themed sessions for Geoscience applications using Computed Tomography and Laser Induced Breakdown Spectroscopy. Both methods are emerging techniques in instrumental analysis and our laboratory is currently involved in a research project in combining LIBS and CT. Please submit your abstracts here: http://www.35igc.org/Verso/211/Submit-an-Abstract Abstract submission closed on 31 January 2016.

Please feel free to contact us for more information on either of these themed sessions.

Dr Chris Broeckhoven giving his award winning presentation in the New Voices in Science competition.

Services Price list 2016

Our new prices are now available from January 2016. You will notice prices have not increased much, the major change is for special requests and for high voltage scans >160 kV using the direct tube: here additional charges are required in order to keep maintaining this system and keep providing the best quality.

For new users: a typical scan is 1 hr but can vary from 20 minutes to 6 hours, and additional costs to keep in mind are advanced analysis (by yourself or us) and hard drive/s for data.

On the up side, we offer scans now according to ASTM E1570 – 11, which is important for commercial clients. For such clients we also offer an optional summary/NDT report for R2000. We also offer free training and support for all clients in planning your work to ensure you get the best quality and do not waste time, thereby getting the best value for money.

How to get started

There are two easy ways to get started. The first is to simply submit samples with a request of analysis required by phone email or skype. The second is to book a 3-hr session to scan and analyze a few samples together and then decide how to proceed with more work. Quotations are sent by email free of charge, and if you are still unsure of how to start, please attend our free regular training courses.

Contact Us

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Service type *PER HOUR*	*Commercial*	*Academic EXTERNAL*	*Academic INTERNAL*
MicroCT scans/1 hour	R1250	R750	R450
NanoCT scans/1 hour	R1250	R750	R450
Special targets, in situ rigs, >160 kV scans, etc per hour	+R500	+R500	+R500
Unassisted analysis per 4 hrs slot	R1250	R750	R450
Assisted analysis sessions per 1 hr	R1250	R750	R450

***All costs exclude 7% admin fee and 14% VAT**

** T&C apply: though prices should be stable during the year, they are subject to possible change depending on university funding model changes

Acknowledgements

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Researchers & companies: provide us your equipment and advanced softwares to manage as part of our facility, in exchange for zero cost of usage, free maintenance and upgrades. This is a win win situation, where we use it to maintain our facility and enhance our materials analysis capabilities.

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