

May/June 2013

Volume 1, Number 3

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Recent interesting scans (clickable links)

Reverse engineering an aluminium fan

<http://blogs.sun.ac.za/ctscanner/2013/05/20/300/>

Stone age tool artifact

<http://blogs.sun.ac.za/ctscanner/2013/05/09/stone-age-tool/>

A brochure for the manufacturing industry

<http://blogs.sun.ac.za/ctscanner/2013/04/18/brochure-for-the-manufacturing-industry/>

Wood product quality problem solved

<http://blogs.sun.ac.za/ctscanner/2013/05/28/wood-products-quality-problem-solved-by-3d-imaging/>

Looking into grapes

<http://blogs.sun.ac.za/ctscanner/2013/03/30/looking-into-grapes/>

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Find us on "Science Exchange" (satisfied customers, please endorse us!):

<https://www.scienceexchange.com/facilities/ct-scanner-at-central-analytical-facilities>

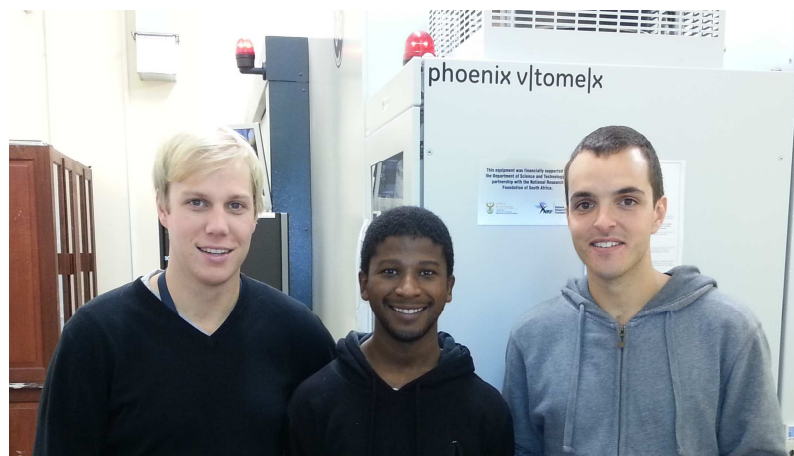
Welcome

This is the 3rd Stellenbosch CT scanner email newsletter of 2013 and what a year it has been so far! The last month has seen the largest single batch job at our facility, involving 146 scans of pears for a research project in the Horticulture department, over a two week period. In addition external usage had grown through some increased usage from local universities and various small scan jobs for local companies. We now also offer analysis of CT data with Avizo Fire, allowing more advanced analysis mainly for academic projects.

This newsletter is aimed at keeping in touch with our clients and stakeholders, so please respond with a thumbs up or thumbs down or give us your suggestions; or even better - make a booking for some scantime! Enjoy the reading!

People

Stephan le Roux and Olwethu Majodina joined us from the 1st of May on the NRF/DST internship program, welcome to the team! These MSc geology graduates will be involved in all aspects of running the facility, but will be focusing on getting more information out of geological samples.



From left to right the CT intern team: Stephan le Roux (NRF/DST Intern), Olwethu Majodina (NRF/DST Intern) and Vincent Young (Forestry Intern)

Achievements

Vincent Young was awarded the Schlicht medal, a very prestigious award. It might not be for his work at the CT scanner, but it shows the quality of people we have here at the CT scanner.

Another achievement has been the successful completion of the largest single batch job of 146 pears.

Application of the month: *Defect detection in metals*

Various defects can be found inside metals, the most common of which is porosity in castings, as shown in the example to the right. CT scans allow high quality viewing of these pores to see if the porosity is too high in some places, in order to improve the manufacturing process.

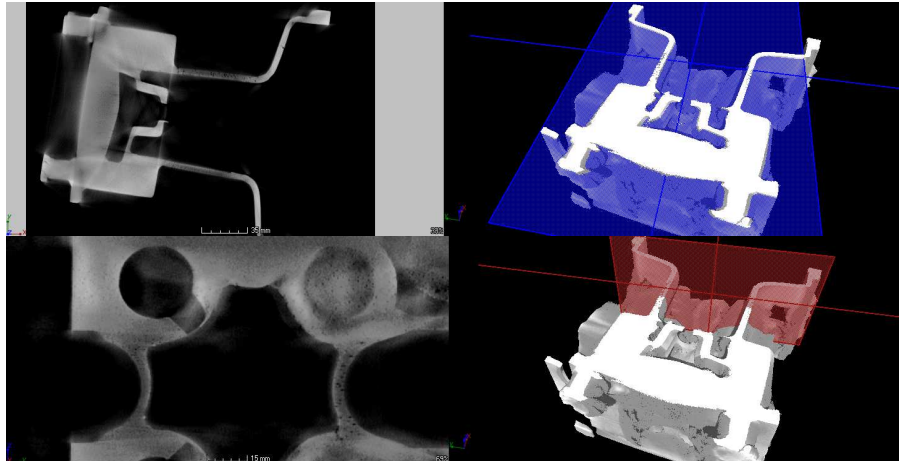
A number of ongoing projects will be loaded to our website soon with such examples.

Other applications of CT scans in the manufacturing industry are:

- Analyzing for cracks or other defects in the manufacturing process
- Analyzing surface treatments
- Analyzing weld zones
- Reverse engineering by fitting internal and external surfaces

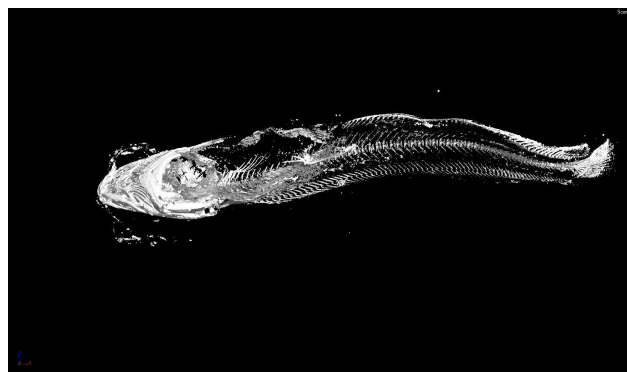
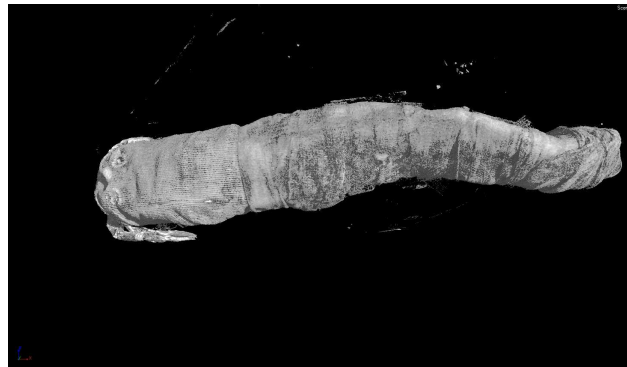
Collaboration project: *Ancient animal mummies*

Prof Salima Ikram, an international expert, visited the Stellenbosch CT facility recently (amongst other things). During her visit, she brought a mummified catfish for a CT scan. See the 3d images of the wrapped catfish and its skeleton. This forms part of research being performed on the mummification of various types of animals by the ancient Egyptians.



These images show slice views (left) with their corresponding positions in the 3d volume (right).

Please also see our brochure for the manufacturing industry:
<http://blogs.sun.ac.za/ctscanner/2013/04/18/brochure-for-the-manufacturing-industry/>



A mummified Catfish

Special offers

Commercial clients: 48 hour turnaround time guaranteed, special rates for batch jobs paid in advance.

Winter cosy stay-in at the CT facility - special for June-July:

8 hour sessions at 20% discount.

Please support our collaborating partner – see their advertisement below:

Events

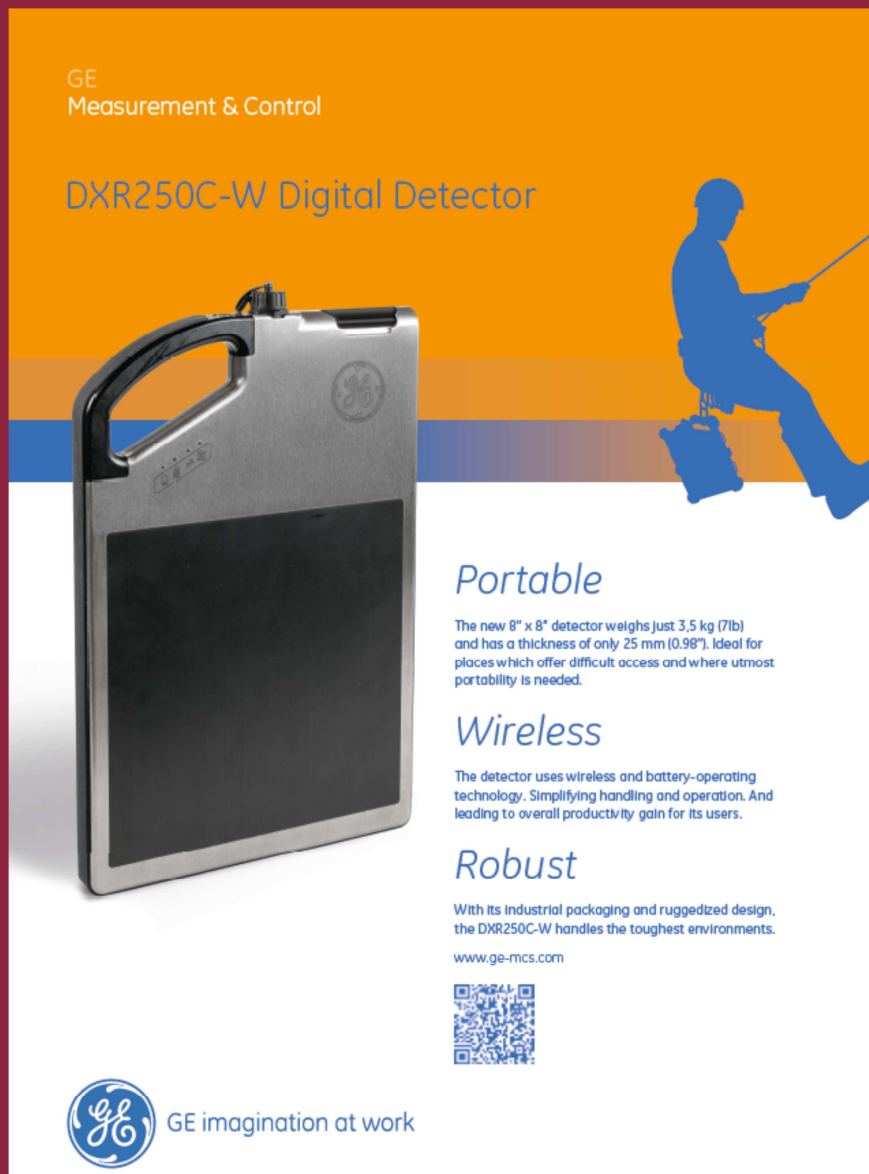
The annual Central Analytical Facilities Training Initiative will be held from 8-12 July. Applications close 31 May (this Friday), so hurry up if you are interested to attend.

<http://academic.sun.ac.za/saf/training.html>

Acknowledgements



The CT scanner equipment acquisition was made possible with grants from the National Research Foundation and Stellenbosch University. The Department of Science and Technology Internship program is also acknowledged for its support of this facility. We encourage and welcome more sponsorship in order to keep delivering the best quality.

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