CT FACILITY STELLENBOSCH

# CT NEWS

*The Stellenbosch CT scanner facility newsletter*

**"more than just a scan"**

Sept/Oct 2015

**In This Issue**



**Recent interesting 3D prints (clickable links)**

***Printer in action***
***http://blogs.sun.ac.za/idea2product/2015/09/23/cubepro-3d-printer-in-action/***

***Case for raspberry pi***
**http://blogs.sun.ac.za/idea2product/2015/09/23/case-for-raspberry-pi/**

***Jewellery design***
**http://blogs.sun.ac.za/idea2product/2015/09/14/jewelry-student-designed-3d-print/**

***Name tags for desk***
***http://blogs.sun.ac.za/idea2product/2015/09/09/print-a-name-stand-for-your-desk/***

***Mini truck with detachable wheels***
**http://blogs.sun.ac.za/idea2product/2015/09/02/mini-truck-wheels-detachable/**

## IntACT

The International Association for Computed Tomography has been launched as a forum and association to bring together non-medical CT users and facilities across the globe. As an international facility and proud supporter of this initiative, we urge you to join the mailing list of this organization and find out more at this website:

**http://www.intact-tomo.org/**

As a national contact point in South Africa we will keep you up to date on international events relevant to our community.

## Welcome

Welcome to our Sept-Oct newsletter. The latest news and examples from our facility is included in this regular newsletter. The aim is to share and explain through examples how you can use our facility for your own work. As always, please send it on if you like it!

The recent IMGRAD2015 conference was a great success with lots of great presentations from students and researchers, and some good networking taking place between users of X-ray CT technology in South Africa. Below is the conference photo, thank you to all who participated!

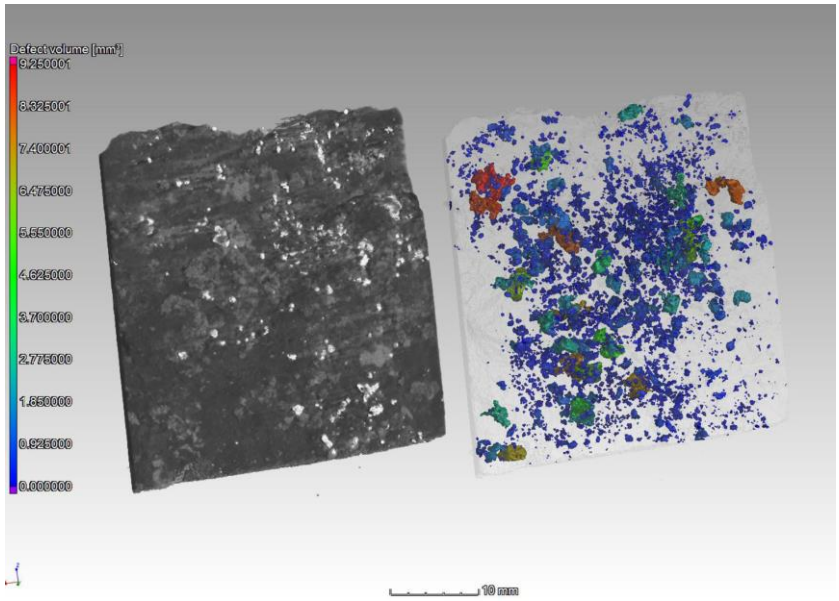
***IMGRAD2015 conference participants***

***International Association of Computed Tomography***

# Drill core analysis

Geological drill core analysis is useful for exploration purposes, and when you understand your sample CT data can provide quantitative ore grade information as shown in this case study, published in Computers & Geosciences.

The results correlate well with industry standard methods, with a hugely improved turnaround time compared to traditional analysis laboratories plus additional information on grain size distribution in 3D, which is not possible in any other way. The advantage is the method is nondestructive and can therefore quickly produce information, in addition to traditional methods, for important samples. The paper is freely available for 90 days: **http://authors.elsevier.com/a/1RlXqMMTPLTET**




***3D image of tungsten inside a rock drill core, with tungsten grain size distribution analysis in 3D colour coding.***

# Mummy falcon's last meal

An ancient Egpytian falcon mummy was analyzed at high resolution in a "virtual autopsy" and it was found that its stomach contains a mass of bones and teeth of two or more mice as well as a small bird. This leads us to believe the ancient Egyptians kept birds of prey in captivity, since a natural occurring bird will never eat as much in one go. Read more and see some stunning images and videos here:

**http://www.sciencedirect.com/science/article/pii/S0305440315002617**

See additional videos and information here: **http://blogs.sun.ac.za/ctscanner/a-view-into-ancient-egypt-through-a-mummy-falcon/**


***Entirely nondestructive virtual autopsy of a falcon mummy***

# Digital X-ray competition

We are having an X-ray image competition, and the winner gets a full 3D scan and 3D print of an object of his choice (plus free publicity). Additional sponsored prizes are planned but not yet confirmed.

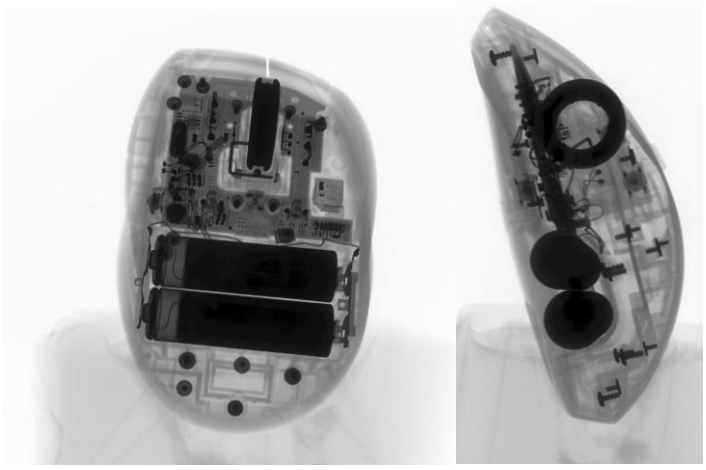
The two categories are as follows:

1. Weirdest object X-ray'ed
2. Most striking X-ray image

How it works: you contact our NRF interns for a timeslot and bring your sample for a free X-ray image. Please note this is not a full CT scan, only X-rays as indicated in Figure 2. Only 1 sample per person, limited to 5 images per object (different angles or mounting). The competition runs until 30 November 2015.

PLEASE NOTE we are not a diagnostic facility and no humans will be scanned.

Contact: laurenlouw@sun.ac.za



***X-rays of a mouse (non-biological type)***


**Contact Us**

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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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