



Abstract ID : 32

An overview of the Stellenbosch CT facility – latest capabilities, applications and advances

Content

The Stellenbosch University computed tomography (CT) scanner facility is now almost 10 years old. The growth and development of this facility has been documented in previous works, with summaries of typical application types and research areas of interest [1,2]. Despite the challenges, this facility has been financially secure and supported a wide diversity of research leading to hundreds of scientific publications, post-graduate student degrees and industrial applications in the local industry. In this paper, the latest capabilities and advances at the Stellenbosch CT facility are described, by focusing on research and industrial application highlights from the last two years. This includes particular efforts in advanced manufacturing, reverse engineering, failure analysis and product and process verifications for a variety of different partners. In research applications, areas of interest remain in advanced manufacturing engineering, geological and agricultural research, and archaeological and heritage object interest. In addition to this, some exceptional biomedical research has been completed in recent times that is worthy of mentioning. In this overview paper, the research interests and areas of particular expertise of each team member of the facility is also discussed, and areas of potential future collaboration are highlighted. Current efforts at big data management and data sharing are discussed, as well as new plans for this in the near future. One particular aspect that needs current attention is closer collaboration of the existing imaging facilities in South Africa, with a suggestion to acquire investment for the longer term sustainability of all these facilities in one flagship program, including opportunities for student bursaries and beamtime awards, with funds for maintenance of existing equipment and potential for further growth and development of these.

Article submission to SA Journal of Science: Title:

Primary author: DU PLESSIS, Anton (Stellenbosch University)

Co-authors: TSHIBALANGANDA, Muofhe (Stellenbosch CT scanner facility); WELLS, Carlyn (Stellenbosch University); BLAKEY-MILNER, B (Nelson Mandela University)

Presenter: DU PLESSIS, Anton (Stellenbosch University)

Contribution Type: Oral Presentation

Submitted by NSHIMIRIMANA, Robert on Thursday 29 July 2021