Contribution ID: **209**   Type: **Poster Presentation**

Optimization of a Computed Tomography Scan Using Swarm Intelligence

Tuesday, 8 July 2014 17:10 (1h 50m)

Abstract content
   (Max 300 words)
Formatting &
Special chars

Computed tomography (CT) is a non-destructively analytical technique using penetrating radiation (Neutrons, X-rays or Gamma-rays) as a probe. As the technique is being used as a diagnostic probe in medical applications, it is being used by the scientific community to retrieve qualitative and quantitative information from laboratory scale samples under investigation.

The quest of achieving good results (quality images) in CT, is most of the time met with challenges due to instrument liability, algorithm performance and human decision. With time, some of the challenges are solved using human intuition. As time goes by, experience is gained and as the old challenges become easy to solve the new challenges are born. To obtain the best results possible, the CT experimental simulation will be optimized using swarm intelligence techniques. In this talk we discuss a CT experimental simulator and an image quality analyzer, tools that will be used in CT optimization.

Apply to be
 considered for a student
   award (Yes / No)?

Yes

Level for award
 (Hons, MSc,
   PhD)?

PhD

Main supervisor (name and email)
and his / her institution

Andries Engelbrecht, andries.engelbecht@gmail.com

Would you like to <br> submit a short paper <br> for the Conference
 Proceedings (Yes / No)?

yes

Primary author: Mr NSHIMIRIMANA, Robert (NECSA)

Co-author: Prof. ENGELBRECHT, Andries (University of Pretoria)

Presenter: Mr NSHIMIRIMANA, Robert (NECSA)

Session Classification: Poster1

Track Classification: Track F - Applied Physics