CoE-MaSS weekly seminar series

THE DST-NRF CENTRE OF EXCELLENCE IN MATHEMATICAL AND STATISTICAL SCIENCES (CoE-MaSS) WOULD LIKE TO PRESENT A SEMINAR BY

Dr Conrad Mueller

(University of South Africa)

"Why not consider a new Computational Paradigm?"

Friday, 19 August 2016
10h30-11h30

Broadcast live from:
Videoconferencing Facility, 1st Floor
Mathematical Sciences Building, Wits West Campus

How to connect to this seminar remotely:
You can connect remotely via Vidyo to this research seminar by clicking on this link:
http://wits-vc.tenet.ac.za/flex.html?roomdirect.html&key=y0SSOwFsvsidbzg4qFdWXvvQtyI
and downloading the Vidyo software before the seminar.
You must please join in the virtual venue (called *"CoE Seminar Room (Wits)"* on Vidyo) strictly between **10h00-10h15**. No latecomers will be added.

Important videoconferencing netiquette:
Once the seminar commences, please mute your own microphone so that there is no feedback from your side into the virtual room. During the Q&A slot you can then unmute your microphone if you have a question to ask the speaker.

Title:
Why not consider a new computational paradigm?

Presenter:
Dr Conrad Mueller, University of South Africa, darnoc.mueller@gmail.com

Abstract:
Big data and high performance computing are seen by many as important tools that will be used to advance science. Architecture plays a pivotal role in meeting the high performance needs. As far back as 1977, Backus was questioning whether there are alternatives to the von Neumann model which can address performance. While the research continues to improve the performance of architectures no alternatives to the instruction based paradigm have been considered. Is it not time to do so? Arithmetic has been used for centuries to do computation with all the advantages of a solid mathematical foundation. The talk looks at how manual arithmetic computation can be automated without compromising on solid mathematical principles. If time permits the talk will discuss how such a model has the potential to address the needs of big data and high performance.