DEPARTMENT OF PHYSICS
UNIVERSITY OF CAPE TOWN

MeASURe
Metrological and Applied Sciences University Research Unit

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Applied nuclear physicist, with a focus on radiation metrology, and tertiary physics education

Research students

Present:
Postdoc: Tanya Hutton, *Fast neutron applications*
PhD: Dieter Geduld, *Neutron cross sections for fusion studies.*
PhD: Phumlani Zipho Ngcobo, *New targets for neutron beams for the proposed RIB facility at iThemba LABS*
PhD: Graham Daniels, *A fast neutron source for radiography and tomography.*
PhD: Dayne Kemp, *Compact digital electronics for neutron detection*
MSc: Thapelo Mametja , *An uncertainty budget for the pre-curser Watt balance for South Africa*

Completed:

PhD: Rudolph Nchodu, *Determination of energy spectra of proton therapy beams.* (2002) 1-165.
MSc: Siphiwo Makupula, *Measurement of spectral neutron fluence from 5-200 MeV by means of liquid scintillators.* (2003) 1-90.
MSc: Gregor Leigh, *Development of problem solving skills in large physics classes.* (2004, with distinction) 1-139.
MSc: Reuben Koontse, *The role of tutor intervention in the epistemology of small group physics learning activities*. (2005) 1-108.
MSc: Trevor Volkwyn, *First year students' understanding of measurement in physics laboratory work* (2005, with distinction) 1-158.
MSc: Seshini Pillay, *The evaluation of a research-based curriculum for teaching measurement in the first year physics laboratory.* (2006) 1-187
MSc: Bashirah Ibrahim, *The relationship between views of the nature of science and views of the nature of scientific measurement.* (2006, with distinction) 1-178
PhD: Bashirah Ibrahim, *Model-based teaching and learning of kinematics in an introductory physics course for underprepared students* (2009).
MSc: John Fearon, *Effective use of physical demonstrations in the teaching and learning of introductory physics* (2010).
Postdoc: Ayodele Odo, *Positron emission particle tracking* (2009-2010)
MSc: Maisson Hassan, *Trace element characterization of mineral ores* (2011)
MSc: Emmanael Musonza, *Measurements of fast neutron fluence at iThemba LABS* (2011)
MSc: Matthew Bickell, *Investigations into a positron emission imaging algorithm* (2012, with distinction).
MSc: Michael Malahe, *Coupled DEM-CFD modelling in positron emission particle tracking* (2012, with distinction).
MSc: Louis Majawa, *Neutron activation analyses of bulk mineral samples using a D-T sealed tube neutron generator* (2013, with distinction)
PhD: John Fearon, *Strategies adopted by undergraduate physics students when modelling solutions to hands-on tasks* (2014)
MEng: Michael van Heerden *Optimization of the radio-labelling of ion exchange resin tracers for PEPT* (2015)
MEng: Cong Lui *New technique of radiolabelling tracers with 64Cu for positron emission particle tracking* (2015)
Postdoc: Kathryn Cole, *Positron emission particle tracking* (2014-2016) Claude Leon Fellowship
PhD: Angus Comrie, *Development of a compact neutron/gamma-ray detector* (2016).