



DEPARTMENT OF
PHYSICS
UNIVERSITY OF CAPE TOWN

M e A S U R e

Metrological and Applied Sciences University Research Unit

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Brief Curriculum Vitae

Andy Buffler HDE (UCT) PhD (UCT)

Professor and Head of Department

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

Teaching

- Recipient of UCT's Distinguished Teacher Award (2002).
- Co-recipient of UCT's Award for Collaborative Teaching Practice (2007).
- HELTASA Teaching Advancement at University (TAU) Fellowship (2015-2016).
- Significant contribution to development and delivery new first year course for physics majors based on the *Matter and Interactions* curriculum.
- First implementation, worldwide, of the ISO-GUM approach to teaching metrology being introduced at the first year university level. These materials have been adopted by many institutions world-wide and are available as open source learning materials.
- Pilot partner (PHY1004W) for UCT's Laptop Pilot Initiative
- 30+ post-graduate students

Research

- NRF B2-rated; h-index 16 (WoS); 60+ publications; 60+ conference proceedings
- Director of the Metrological and Applied Sciences University Research Unit (MeASURE)
- Fast neutron detection, metrology and applications, using the fast neutron facilities at UCT and iThemba LABS.
- Using neutrons for the elemental analysis of materials in bulk for industrial applications.
- Positron Emission Particle Tracking (PEPT) for the characterization of flow using the facilities of PEPT Cape Town
- Visualization and modelling in physics teaching and learning
- The visual language of physics. Effective use of computation in introductory physics
- Students' understanding of measurement and uncertainty

Other

- Head of Department, UCT Physics, 2012 to present
- Many Faculty and University-level committees.
Main presently: Science PhD Committee of Assessors, Science Promotions and Remuneration Committee, Chair of University Equipment Committee, University Research Committee, Senate Executive
- Many national and international panels.



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