

## **Prof. Hendrik C Swart**



**Prof. Hendrik C Swart**, Department of Physics, University of the Free State, South Africa

Hendrik C Swart is a B2 NRF rated researcher and currently a senior professor in the Department of Physics at the University of the Free State. Over the past 19 years he has led research in the area of the degradation of phosphors for field emission displays, as well as developing materials for nano solid state lighting. He has been key in the development of processes to synthesize and deposit thin films of various types of semiconductor nanoparticles which will enhance the colour, luminescent intensity and lifetime of such displays. He has more than 280 publications in international peer reviewed journals, 40 peer reviewed conference proceedings and 3 book chapters and books with more than 1450 cited author references and more than 400 national and international conference contributions (authored and co-authored). He has an ISI H-index of 19 (rid=g-2696-2012). He is a reviewer for about 30 international and national professional journals in his field (or in related fields), and a member of the editorial board of the high impact factor journal 'Critical Reviews in Solid State and Materials Sciences. He has received the South African National Science and Technology Forum (NSTF) award in 2009 for research capacity development of students in the niche area of nanophysics. His commitment to the next generation of scientists is also reflected by the awards he received from the Faculty of Natural and Agricultural Sciences at the University of the Free State, South Africa for excellence (2012), mentorship (2008) and for academic entrepreneurship (2009). He received honorary membership of the Golden Key Association (2012). He was chair of national and international conferences. He has

supervised 45 PhD and MSc students successfully in the past with another 16 in progress and has established a National Nano Surface Characterization Facility (NNSCF) containing state of the art surface characterization equipment. Interdisciplinary results obtained with these systems were recently selected for the cover of Federation of European Microbiological Societies (FEMS) Yeast research journal for 2013. A research chair in Solid State Luminescent and Advanced Materials was awarded to him from the South African Research Chairs Initiative (SARChI) at the end of 2012. The main focus of his research group will be the improvement of luminescent materials for applications in Flat Panel Displays and Solar Cells; the development of Organic light emitting diodes (OLED) materials as well as materials for power saving solid state lighting devices.