

2011 South African IEEE AP●MTT●EMC Conference Programme

Day 1: Thursday, 14 April 2011		
Arrival and Registration (Coffee/Tea) : 08h00-09h00		
Session 1: Opening and Plenary Talk 09h00-09h45		
09h00-09h15	Dr Riana Geschke Stellenbosch University	Opening by Conference Chair
09h15-09h45	Mr Lewis Mathieson Armscor	Conference Plenary: The South African Radar Industry: A Contemporary Perspective
09h45-10h15	Coffee/Tea break	
Session 2: Antennas 10h15-12h30 Session Chairs: Prof Johan Joubert and Prof Johannes Cloete		
10h15-10h45	Dr Rob Maaskant Chalmers University of Technology	Keynote presentation: Electromagnetic Simulation of Large Antenna Array Systems – Combining Enhanced Integral-Equation Methods with Circuit Models
10h45-11h00	Johan Joubert ¹ , W.G. Vardaxoglou ² , Whittow ² and J. W. Odendaal ¹ University of Pretoria ¹ , Loughborough University ²	A Low-Profile Cavity-Backed Slot Antenna Loaded with an AMC Reflector
11h00-11h15	Robert Lehmensiek CPUT	Shuttlecock Antenna for the CPUT 3U CubeSat
11h15-11h30	JW Odendaal, B Jacobs, OB Jacobs and J Joubert University of Pretoria	Wideband Ridged Guide Antennas
11h30-11h45	Dave Giri University of New Mexico	Impulse Radiating Antennas with Illustrative Examples
11h45-12h00	Johannes Cloete Stellenbosch University Brian Woods Antenna Magus	Design of Quarter-wave Baluns
12h00-12h15	Gordon Mayhew-Ridgers and Paul A. van Jaarsveld Vodacom	Cellular Base-station Antenna Solutions for Radio-astronomy Interference Mitigation
12h15-12h30	Keith Palmer and Charl Baard Stellenbosch University	The “Triple Cheese”: A High Performance Pillbox Antenna
12h30-13h30	Lunch	

Session 3: Radar and Systems 13h30-16h00 Session Chairs: Prof PW van der Walt and Prof Mike Inggs		
13h30-14h00	Dr Surendra Pal <i>Indian Space Research Organization (ISRO)</i>	Keynote Presentation: Microstrip Antennas for Space and Airborne Radars
14h00-14h15	Mike Inggs <i>University of Cape Town</i>	Active and Passive MIMO Radar
14h15-14h30	JJ Botha and DJ Meiring <i>Denel</i>	HILS Simulation for the Development and Evaluation of Radar Seekers
14h30-14h45	Johan Smit <i>DPSS</i>	Radar Cross Section Modelling for Modern Radar Applications
14h45-15h00	Eben Laubscher <i>SAAB Avionics</i>	Radar Warning Receiver: Architecture Consideration, RF Design and Simulation
15h00-15h15	Paul van der Merwe, Nico Ehlers, John van der Merwe <i>Reutech Radar Systems</i>	Development of a Miniature, Low Cost, Low Power FMCW Radar
15h15-15h30	PW van der Walt <i>Reutech Radar Systems</i>	FMCW Radar Design Challenges
15h30-15h45	Cornell van Niekerk, Willem Kemp, Johan Wybenga, Werner Botha, Wilko Heinze, Hercle van Biljon, Wimpie van den Berg <i>Grintek Ewation</i>	David versus Goliath
15h45-16h00	Radar and Systems Closing Discussion	
16h00-16h30	Coffee/Tea break	
Session 4: Computational Electromagnetics 16h30-18h00 Session Chair: Prof Matthys Botha		
16h30-17h00	Prof David Davidson <i>Stellenbosch University</i>	Keynote presentation: Recent Advances in Full-wave Computational Electromagnetics for RF and Microwave Applications
17h00-17h15	Ulrich Jakobus, Johan van Tonder, Marianne Bingle, Danie Ludick, Willem Burger, Frank Illenseer <i>EMSS</i>	Accelerated MoM in FEKO
17h15-17h30	Marlize Schoeman and Ulrich Jakobus <i>EMSS</i>	Hybridisation of Field and Transmission Line Theory in FEKO for the Solution of Complex Cable Problems
17h30-17h45	Bennie Jacobs and J. du Toit <i>EW Operations, SAAB</i>	High Power Jamming Horns: A Comparison Between Numerical Simulation and Measured Performance
17h45-18h00	Computation Electromagnetics Closing Discussion	
18h30-21h30	Conference Dinner at Moyo	

Day 2: Friday, 15 April 2011

Coffee/Tea : **08h00-08h30**

Session 5: Passive and Active Devices 08h30-10h00

Session Chairs: Dr Riana Geschke and Prof Petrie Meyer

08h30-09h00	Prof Irina Vendik <i>St Petersburg Electrotechnical University</i>	Keynote Presentation: Miniature Multifunctional Microwave Devices Based on a Metamaterials Design Approach in LTCC
09h00-09h15	Riana Geschke ¹ , Petrie Meyer ¹ , Branka Jokanovic ² , Vesna Crnojevic-Begin ³ , Nikolina Jankovic ³ <i>Stellenbosch University¹, Physics Institute of Serbia², University of Novi-Sad³</i>	Microstrip Filter Topologies and Circuit Models for Triple-band Filters
09h15-09h30	Pieter Abrie <i>SAAB EDS</i>	Wideband High Dynamic Range Limiting Amplifier
09h30-09h45	Saurabh Sinha, D. Foty, E. Golovins, M. Božanić, C. Janse van Rensburg, D. George, W. Lambrechts, N. Fauré, L. Tshibe, A. Alberts and J. Valliarampath <i>University of Pretoria</i>	RF and mm-Wave Integrated Circuits - Works at the Carl & Emily Fuchs Institute for Microelectronics, University of Pretoria
09h45-10h00	Devices Closing Discussion	
10h00-10h30	Coffee/Tea break	

Session 6: Electromagnetic Compatibility (EMC) and Metrology 10h30-12h45

Session Chairs: Prof Howard Reader and Dr Dirk de Villiers

10h30-11h00	Dr AP van Deursen <i>Eindhoven University of Technology</i>	Keynote Presentation: Protection of Electronics and Installations
11h00-11h15	Howard Reader, Phillip Kibet-Langat, Joely Andriambeloson, Carel van der Merwe, Paul van der Merwe, Braam Otto and Gideon Wiid <i>Stellenbosch University</i>	Recent Research and Developments for KAT-7 RFI Mitigation and EMC

11h15-11h30	Gideon Wiid, Braam Otto, Paul van der Merwe and Howard Reader <i>Stellenbosch University</i>	EMI Studies on Lightning Mitigation and Soil Attenuation for KAT-7
11h30-11h45	Tinus Stander <i>Denel Dynamics</i>	Development, Simulation and Construction of cost-effective GTEM Cells
11h45-12h00	Dirk Baker and Riaan Booysen <i>SAAB EDS</i>	A High Performance Tapered Anechoic Chamber for 0.5 to 40 GHz
12h00-12h15	C. J. Fourie, E. F. Saunderson and D. J. Gouws <i>Stellenbosch University</i>	A Global Network of SQUID Magnetometers for Measuring Terrestrial and Space Weather Phenomena
12h15-12h30	Pieter Pretorius and Harry Troskie <i>Trans-Africa Projects</i>	On the Electromagnetic Compatibility of Wind Turbines
12h30-12h45	EMC and Metrology Closing Discussion	
12h45-14h00	Lunch	
14h00-14h15	Saurabh Sinha, Past Chair of SA IEEE Section: Facilitate election of new chapter committee	
Session 7: Radio Telescope Subsystems 14h15-16h00 Session Chair: Prof David Davidson		
14h15-14h45	Dr Marianna Ivashina <i>Chalmers University of Technology</i>	Keynote Presentation: Analysis of the Noise Performance and Sensitivity of Receiving Array Systems with Strongly Coupled Antenna Elements
14h45-15h00	Marius van der Merwe <i>ETSE</i>	Building Downconverters for the KAT-7 Prototype Radio Telescope
15h00-15h15	Paulus Kruger and Barend Visser <i>Potchefstroom University</i>	Designing Broadband, Multipath, Low Noise Amplifiers
15h15-15h30	Robert Lehmensiek and Isak P. Theron <i>EMSS Antennas</i>	The Feed for the MeerKAT Radio Telescope
15h30-15h45	Dirk de Villiers, <i>Stellenbosch University,</i> Robert Lehmensiek, Evan Knox-Davies, Isak Theron <i>EMSS Antennas</i>	Preliminary Reflector Design of the MeerKAT Radio Telescope
15h45-16h00	SKA Closing Discussion	
16h00-16h30	Coffee/Tea Break	
16h30-16h45	Conference Closing	