



# 2015 IEEE RADAR CONFERENCE

*Out of Africa – always something new*

Sandton Convention Centre, Johannesburg, South Africa 27-30 October 2015



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## IEEE Radar Conference 2015, Sandton, South Africa, Updated Programme (Page 1)

**Tuesday - 27 October 2015 - Tutorial Day** - See Tutorial Programme

### Wednesday - 28 October 2015 - Day 1

**Opening and Plenary Session (Ballroom 3/4)**

08h15	<b>Opening Remarks</b> - Prof Michael Inggs (General Conference Chair) - University of Cape Town		
08h30	<b>Opening Address</b> - Dr. Phil Mjwara - Director General, Department of Science and Technology		
08h45	<b>Commemoration: 80 years of Radar in Britain and 75 years of Radar in South Africa</b> - Dr. Brian Austin, Historian		
09h15	<b>Current South African Radar Technology</b> - Mr Molahlegi Molope - ARMSCOR		
09h45	<b>COFFEE/TEA BREAK (Ballroom 2)</b>		
10h30	<b>Contribution of Radar to Earth Observation and Planetary Imaging</b> - Dr Jakob van Zyl - Associate Director, Jet Propulsion Laboratory, NASA		
11h10	<b>Governments do not need to fund science</b> - Prof Terence Kealey - The University of Buckingham		
11h50	<b>Engineering Challenges of the SKA</b> - Prof. Justin Jonas - Associate Director for Science and Engineering, SKA South Africa		
12h30	<b>LUNCH (Ballroom 2)</b>		
	Boardroom 6/7	Boardroom 1/2/3	Ballroom 3/4
13h30	<b>Session 1: Imaging</b> Dr Hans Hellsten, Prof. Caner Ozdemir	<b>Session 2: Military / Security Applications</b> Molahlegi Molope, Danie Meiring	<b>Session 3: High and Medium Grazing Angle Maritime Surveillance (invited)</b>
13h30	<b>Orthogonal matching pursuit and matched filter techniques for the imaging of rotating blades</b> Rocco Melino, Sandun Kodituwakku, Hai-Tan Tran	<b>Tactical radar missile challenges</b> Ivan Gibbons, Jaco Botha	<b>Advances in radar performance modelling in sea-clutter</b> Simon Watts, Michael McDonald, Luke Rosenberg
13h50	<b>On the Information Gain Obtainable by Exploitation of the Monopulse Difference Channel for an X-Band High Range Resolution Radar Evaluated using Asymptotic EM Techniques</b> Jacques Cilliers, Johan Smit, Chris Baker, Karl Woodbridge	<b>Multi-perspective High Range Resolution Profiles of Landmines</b> Lauren Wright, Alessio Balleri, Hugh Griffiths, Federico Lombardi	<b>Adaptive normalised matched filter performance in medium grazing angle sea-clutter</b> Michael McDonald, Delphine Cerutti-Maori
14h10	<b>ISAR imaging using the instantaneous range instantaneous Doppler method</b> Tariq Wazna, Ahmed Balamesh, Yunus Gaffar	<b>White space symbiotic radar: A new scheme for coexistence of radio communications and radar</b> Amit Mishra, Michael Inggs	<b>Coherent radar performance in sea-clutter</b> Simon Watts, Luke Rosenberg
14h30	<b>Fine resolution (1.25cm) ultra-wideband radar tomographic imaging using an 8.5 GHz vector network analyzer and a rotating pedestal</b> Lanche Grootboom, Andrew Wilkinson	<b>Over-the-air deramping for multi-static perimeter surveillance</b> Matthew Ash, Matthew Ritchie, Paul Brennan, Kevin Chetty	<b>Characterization of X-Band radar sea-clutter in a limited fetch condition from low to high grazing angles</b> Terje Johnsen
14h50	<b>Millimeter-wave band radiometric imaging experiments for the detection of concealed objects</b> Hakan Isiker, Caner Ozdemir, Ilhami Unal	<b>An experimental study on secondary radar transponder UMOP characteristics</b> Xiao-hu Ru, Hao-huan Ye, Zheng Liu, Feng-hua Wang, Wen-li Jiang, Zhi-tao Huang	<b>Comparison of distributions for real and synthetic aperture X-Band sea-clutter</b> Luke Rosenberg, Sebastien Angelliaume, Anthony Fiche
15h10	<b>COFFEE/TEA BREAK (Ballroom 2)</b>		
	Boardroom 6/7	Boardroom 1/2/3	Ballroom 3/4
15h40	<b>Session 4: Waveform Design</b> Andre le Roux, Heiner Kuschel	<b>Session 5: MIMO</b> Dr. Lorenzo lo Monte, Pieter-Jan Wolfaardt	<b>Session 6: Clutter</b> Dr. Michael McDonald, Prof. Maria Greco
15h40	<b>Poly-phase Coded Waveform Design with Expanded Mainlobe Width</b> Huikai Zang, Hongwei Liu, Shenghua Zhou, Yunhe Cao, Huan Lei	<b>Resource Manager for MIMO radar</b> Debasish Deb, R Bhattacharjee, A Vengadarajan	<b>Analysis of X-band sea-clutter statistics from velocity SAR imagery (invited)</b> Luke Rosenberg, Mark Sletten
16h00	<b>Joint Design of Phase Coded Waveform and Mismatched Filter</b> Leilei Xu, Hongwei Liu, Shenghua Zhou, Ding Cao, Huikai Zang	<b>MIMO beamforming using quasi-orthogonal ultrawideband impulse waveforms</b> Malek Hussain	<b>Statistical and spectral modelling of medium grazing angle coherent radar data (invited)</b> Michael McDonald, Delphine Cerutti-Maori
16h20	<b>Convex optimization for optimal PMEPR and mismatched filter design in OFDM radar</b> Gabriel Lellouch, Amit Mishra, Michael Inggs	<b>Moving Target Detection Under Spatially Nonhomogeneous Clutter For Airborne Phased-MIMO Radar</b> Shabnam Ghotbi, Moein Ahmadi, Kamal Mohamedpour	<b>Distribution analysis of segmented breaking wave sea clutter in littoral environments</b> Manfred Stempel, Pieter De Villiers, Jacques Cilliers, Andre McDonald
16h40	<b>High Range Resolution with Stepped FM in Sub-apertured MIMO</b> Debasish Deb	<b>Direction of Arrival Estimation via Reweighted L1 Norm Penalty Algorithm for Monostatic MIMO Radar</b> Qi Liu, Wei Wang, Xin Li	<b>Analysis of high resolution land clutter using an X-band radar</b> Amer Melebari, Yunus Gaffar, Jurgen Strydom
17h30	<b>Cocktail function and Exhibition Opening (Bill Gallagher Room)</b>		

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Thursday - 29 October 2015 - Day 2

Boardroom 6/7 Session 7: Passive Radar (Invited - 08h30) <i>Heiner Kuschel, Dr. James Palmer</i>		Boardroom 1/2/3 Session 8: Detection (08h30) <i>Jacques Cilliers, Dr. Diego Cristallini</i>		Committee Room 4 GRSS: SAR for African Development - Opening (08h00)	
08h30	<b>Opportunities and Current Drivers for Passive Radar Research</b> <i>James Palmer, Diego Cristallini, Heiner Kuschel</i>	<b>Distributed detection with initial thresholds in local sensors</b> <i>Shenghua Zhou, Hongwei Liu, Ding Cao, Qinzhen Hu, Hongtao Su</i>	08h00	<b>Opening Remarks</b> <i>Session Chairs</i>	
08h50	<b>Receiver Platform Motion Estimation using Terrestrial Broadcast Transmitters for Passive Radar</b> <i>James Palmer, Ashley Summers, Martin Ummerhofer, Georgia Bournaka, Simon Palumbo, Diego Cristallini, Heiner Kuschel</i>	<b>The Effect of Windowing on the Performance of the CA-CFAR and OS-CFAR Algorithms</b> <i>Asem Melebari, Yunus Gaffar, Rian De Wind, Jacques Cilliers, Amer Melebari, Waleed Alomar</i>	08h15	<b>SAR and Earth Observation</b> <i>Scott Hensley (JPL)</i>	
09h10	<b>Multi-frequency Polarimetric Target Detection in FM-based Passive Radar</b> <i>Fabiola Colone, Pierfrancesco Lombardo</i>	<b>Enumeration of highly-correlated radar targets with eigenbeam-space post-Doppler CFAR</b> <i>Ryuhei Takahashi, Toru Takahashi, Takayuki Inaba, Hirohisa Tasaki</i>	09h00	<b>SMAP - The Revised Mission</b> <i>Erika Podest (NASA)</i>	
09h30	<b>Disturbance Removal in Passive Radar via Sliding Extensive Cancellation Algorithm (ECA-S)</b> <i>Claudio Palmirini, Tatiana Martelli, Fabiola Colone, Pierfrancesco Lombardo</i>	<b>Enhanced OMP Algorithm for the Detection and Estimation of Closely Spaced Moving Objects in the Presence of Doppler Ambiguities</b> <i>Linda Aouchiche, Guy Desodt, Claude Adnet, Laurent Ferro-Famil</i>	09h35	<b>Forests, Vegetation and Disaster Management with SAR</b> <i>Tony Milne (UNSW)</i>	
09h50	<b>Passive Radars Utilising Pulse Radars as Illuminators of Opportunity</b> <i>Piotr Samczynski, Piotr Krysiak, Krzysztof Kulpa</i>	<b>Target detection with SNR diversity for distributed MIMO radar</b> <i>Qinzhen Hu, Hongtao Su, Shenghua Zhou, Ziwei Liu</i>			
10h10	COFFEE/TEA BREAK (Bill Gallagher Room) - Posters to be setup				
Boardroom 6/7 Session 9: Passive Radar (2) <i>Prof. Daniel O'Hagan, Dr. Piotr Samczynski</i>		Boardroom 1/2/3 Session 10: µDoppler and Windfarm Effects <i>Willie Nel, Dr Alessio Balleri</i>		Committee Room 4 GRSS: SAR for African Development - Applications	
10h50	<b>High Sensitivity Fixed Tuned Direct Conversion Receiver For FM-Band Commensal Radar</b> <i>Michael Inggs, Riana Geschke, Justin Coetser, Daniel O'Hagan</i>	<b>Comparison of the Recorded RCS and Spectra of three different Wind Turbines at L- and S-Band</b> <i>Rian de Wind, Kevin Kloke, Urs Böniger, Hans Pratisto</i>	<b>SAR Applications - Mining environments</b> <i>Jeanine Engelbrecht (CSIR)</i>		
11h10	<b>Maximum Likelihood (ML) based Localization Algorithm for Multi-static Passive Radar using Range-only Measurements</b> <i>Mubashir Alam</i>	<b>Comparison of the Simulated and Recorded RCS and Spectra of a VESTAS V100-1.8 Wind Turbine at L- and S-Band</b> <i>Rian de Wind, Kevin Kloke, Urs Böniger, Johan Smit, Hans Pratisto</i>	<b>SAR Applications - Biomass and Vegetation</b> <i>Renaud Mathieu (CSIR)</i>		
11h30	<b>Mitigation of Rotor Blade-flash Masking in Passive Radar Collision Warning System Parasol</b> <i>Martin Ummerhofer, Heiner Kuschel, Joerg Heckenbach</i>	<b>Analysis of the Signature of Rotating Blades with Empirical Mode Decomposition</b> <i>Mickael Bruno, Alessio Balleri</i>	<b>SAR Applications - Agriculture</b> <i>Jaco Kemp (US)</i>		
11h50	<b>Two Target Localization using Passive Monopulse Radar</b> <i>Seifallah Jardak, Sajid Ahmed, Mohamed Slim Alouini</i>	<b>Analysis of Multiband Monostatic and Bistatic Radar Signatures of Wind Turbines</b> <i>Francesco Fioranelli, Matthew Ritchie, Hugh Griffiths, Alessio Balleri</i>	<b>SAR Applications - Maritime Domain Awareness</b> <i>Waldo Kleynhans (CSIR)</i>		
12h10	<b>Copula Based Dependence modeling for inference in radar systems</b> <i>Sora Choi, Hao He, Pramod Varshney</i>	<b>A Comparative Cepstral Based Analysis of Simulated and Measured S-Band and X-Band Doppler Spectra of Human Motion</b> <i>Willem Van Eeden, Pieter De Villiers, Willie Nel, Kevin Kloke, Erik Blasch</i>	<b>SAR Applications in Flood Mapping &amp; Human Settlements and Vegetation Classification</b> <i>P. Sibandze, N. Mudau &amp; C. Adjorlolo (SANS)</i>		

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**Thursday - 29 October 2015 - Day 2**

<b>12h30</b>	<b>LUNCH + POSTER SESSIONS (Bill Gallagher Room) - Authors please man posters for presentation between 13h00 and 14h00</b>		
	<b>Poster Session (Bill Gallagher Room)</b> (13h00 - 14h00) Dr Amit Mishra		
13h00 -14h00	<b>Full-polarization HRRP Recognition Based on Joint Sparse Representation</b> Liu Shengqi, Zhan Ronghui, Wang Wei, Zhai Qinglin, Zhang Jun	<b>Integrated System of Mini-SAR Real-Time Signal Processing and Data Storage</b> Haishan Tian, Wenge Chang, Xiangyang Li	<b>Joint Optimization of Waveforms and Transmit Array for Co-located MIMO Radar</b> Huikai Zang, Shenghua Zhou, Hongwei Liu, Yunhe Cao, Leifei Xu
	<b>Sparse Recovery of Radar Echo Signals using Adaptive Backtracking Matching Pursuit</b> Sathya Narayanan Sekar, Sujit Kumar Sahoo, Anamitra Makur	<b>Two-dimensional Wavenumbers Analysis of One-stationary Bistatic Circular SAR</b> Hongtu Xie, Daoxiang An, Xiaotao Huang, Zhimin Zhou	<b>Frequency Sharing Techniques in a Cognitive Radar</b> Mario LaManna
	<b>Quality of Service Resource Management for a Radar Network</b> Roaldje Nadjasngar, Alexander Charlish	<b>The generalized imaging processing for squinted FMCW SAR</b> Xiangyang Li, Gaowei Jia, Wenge Chang, Chengfei Gu	<b>Comparison of square law, linear and bessel detectors for CA and OS CFAR algorithms</b> Asem Melebari, Amit Mishra, Yunus Gaffar
	<b>MIMO for Conformal Array Radar: More Than an Option</b> Shenghua Zhou, Huikai Zang, Hongwei Liu, Yongbo Zhao, Huan Lei	<b>Impact of Radar Cross Section on HF Radar Surveillance</b> Nikola Lekic, Dejan Nikolic, Dijana Vuicevic, Branislav Todorovic, Bojan Milanovic	<b>Computer Aided Positioning of a Remote Sensing System</b> Macarena Varela
	Boardroom 6/7 <b>Session 11: Multistatic / Multisite (14h00)</b> Prof. Hugh Griffiths, Dr. Terje Johnsen	Boardroom 1/2/3 <b>Session 12: Radar Systems Architectures (14h00)</b> Prof. Hermann Rohling, Prof. Teng Long	Committee Room 4 <b>GRSS: SAR for African Development Sensors and Industry (13h40)</b>
14h00	<b>Simultaneous Data Collection of Small Maritime Targets using Multistatic and Forward Scatter Radar</b> Matthew Ritchie, Francesco Fioranelli, Karl Woodbridge, Hugh Griffiths, Liam Daniel, Alessandro De Luca, Stanislav Hristov, Marina Gashinova, Mikhail Cherniakov	<b>Analysis of Different Multiprocessor Architectures for Radar Signal Processing with Performance Metrics</b> Deepak Kumar, Debashish Deb, Reena Mangain	13h40 <b>An Airborne SAR capability: Why?</b> Scott Hensley (JPL)
			14h00 <b>Overview of the DST/CSIR SAR initiative</b> Jaco de Witt (CSIR)
14h20	<b>High Level Performance Model And Performance Comparison for Bistatic Radar System Design</b> Vanessa Janse van Rensburg, Willie Nel, Jacques Cilliers, Urs Böniger, Urs Siegenthaler, Peter Wellig	<b>An Architecture for a Mode S Secondary Radar with all Processing in Software</b> Vitor Santa Rita	14h20 <b>SAR Capabilities and Experiences in Japan</b> K. Yoshikawa (SANSA/JAXA)
14h40	<b>Investigation of White Rabbit for Synchronization and Timing of Netted Radar</b> Michael Inggs, Stephan Sandenbergh, Simon Lewis	<b>Performance Limitations of Active Cancellers for FMCW Radars</b> PW Van der Walt, Anneke Stofberg, Johann De Swardt	14h40 <b>International Collaboration: JPL with partners in Space</b> Scott Hensley (JPL)
15h00	<b>New Algorithms for Signal Detection in Passive FSR</b> Marco Marra, Alessandro De Luca, Stanislav Hristov, Liam Daniel, Marina Gashinova, Mikhail Cherniakov	<b>Using a Domain Specific Language for SDR to facilitate RADAR Signal Processing in Heterogeneous Computing Architecture</b> Lerato Mohapi, Simon Winberg, Michael Inggs	15h00 <b>RSA Commercial Space Capability</b> Duncan Stanton (SCS)
<b>15h20</b>	<b>COFFEE/TEA BREAK (Bill Gallagher Room)</b>		
	Boardroom 6/7 <b>Session 13: Tracking (15h50)</b> Prof. Pramod Varshney, Dr. Pieter de Villiers	Boardroom 1/2/3 <b>Session 14: System / Sub-system Technology (15h50)</b> Prof. PW van der Walt, Dr. Werner Steyn	Committee Room 4 <b>GRSS: SAR for African Development Case studies/Panel Discussion (15h40)</b>
15h50	<b>Multi-mode Projectile Tracking with Marginalized Particle Filter</b> Ozan Ozgun Bilgin, Mubeccel Demirekler	<b>Practical Implementation of a 16-Channel C-Band Phased Array Radar Receiver</b> Matthew Ash, Mandana Ardeshir-Tanha, Paul Brennan, Anselm Kohler, Jim McElwaine, Chris Keylock	15h40 <b>The Catapult Project: Australia and UK</b> Tony Milne (UNSW)
16h10	<b>Fast Track Initiation Followed By Confirmation Based On Amplitude Information</b> Hongliang Liu, Hongwei Liu, Shenghua Zhou, Xiaodong Dan, Huan Lei	<b>Further Results from a 4.5GSps D/A Converter Capable of Direct Microwave Synthesis of Radar Signal up to X band.</b> Andrew Glascoff-Jones	15h50 <b>Australian Case Study</b> Tony Milne (UNSW)
16h30	<b>Doppler-Aided Track Initiation Algorithm</b> Hongliang Liu, Hongwei Liu, Shenghua Zhou, Xiaodong Dan, Hongtao Su	<b>The Design of Base-Band IQ Filters for Digital Receivers</b> PW Van der Walt, Werner Steyn, Martinette Van der Merwe	16h30 <b>Panel discussion</b> Session Chairs
16h50	<b>A Performance Model for Target Tracking with a Radar Network</b> Roaldje Nadjasngar, Alexander Charlish	<b>The Concept of a Flexible System for Radar Measurements at Low Terahertz Frequencies</b> Pawel Dzwonkowski, Piotr Samczynski, Krzysztof Kulpa, Jędrzej Drozdowicz	17h30 <b>Close</b> Session Chairs
<b>17h40</b>	<b>Transport to Gala Dinner Venue</b>		
<b>18h30</b>	<b>Gala Dinner (Moyo Restaurant - Zoo Lake)</b>		

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**Friday - 28 October 2015 - Day 3**

	Boardroom 6/7	Boardroom 1/2/3	Committee Room 4
08h30	<b>Session 15: Passive Radar (3)</b> <i>Dr. Fabiola Colone, Francois Maasdorp</i>	<b>Session 16: RCS Modelling &amp; Target Feature Extraction</b> <i>Prof. Malek Hussain, Dr. Hai-Tan Tran</i>	<b>Session 17: Foliage Penetration (Invited)</b> <i>Prof. Mark Davis, Francois Anderson</i>
08h30	<b>Range Resolution Improvement for Multiple PCL Radar Systems on Moving Platforms</b> <i>Diego Cristallini, Philipp Wojacek, Martin Ummerhofer</i>	<b>SIGMAHAT: A Toolkit for RCS Signature Studies Of Electrically Large Complex Objects</b> <i>Johan Smit</i>	<b>Monitoring under foliage with Airborne SAR</b> <i>Karlus Alexander Camara de Macedo, Gustavo Shiroma, Christian Wimmer, Joao Moreira</i>
08h50	<b>Duty Factor Impact on WIFIRAD Radar Image Quality</b> <i>Stanislaw Rzewuski, Kulpa Krzysztof, Piotr Samczynski</i>	<b>Micro-Drone RCS Analysis</b> <i>Matthew Ritchie, Francesco Fioranelli, Hugh Griffiths, Berge Torvik</i>	<b>Adaptation of Foliage Penetration Radar to Remove Interference to In-band Communication</b> <i>Hans Hellsten, Claes Claesson, Patrik Dammert, Hannes Illipe</i>
09h10	<b>A Passive Bistatic Radar Experiment for Very Low Observability Target Detection</b> <i>Mobien shoab, Abdulrazaq Aldowesh, Khalid Jamil, Mubashir Alam</i>	<b>Aircraft Micro-Doppler Feature Extraction from HRR Profiles</b> <i>Robert Berndt</i>	<b>Bayesian change analysis for finding vehicle size targets in VHF foliage penetration SAR data</b> <i>Hans Hellsten, Renato Machado</i>
09h30	<b>Self-Calibration of a Passive Radar System using GSM Base Stations</b> <i>Benjamin Knoedler, Reda Zemhari</i>	<b>Numerical and Experimental Radar Cross Section Analysis of the Quadcopter DJI Phantom 2</b> <i>Arne Schroeder, Matthias Renker, Uwe Aulenbacher, Murk Axel, Urs Boeniger, Peter Wellig</i>	<b>L-Band and P-Band Studies of Vegetation at JPL</b> <i>Scott Hensley, Jakob Van Zyl, Marco Lavalle, Maxim Neumann, Thierry Michel, Naiara Muellerschoen, Naiara Pinto, Marc Simard, Mahta Moghaddam</i>
09h50	<b>Database Design for an Experimental, Dual-band, Polarimetric Radar</b> <i>Michael Inggs, Shirley Coetzee, Hugh Griffiths, Matthew Ritchie, Francesco Fioranelli, Karl Woodbridge</i>	<b>Local structure feature extraction of merchant ships from SAR images</b> <i>Song Yang, Xiaoyong Du, Lefeng Zhang, Weidong Hu</i>	<b>Operation of GeoSAR foliage penetration modes in spectrum regulated environment</b> <i>Mark Davis, James Reis</i>

**10h10 COFFEE/TEA BREAK (Bill Gallagher Room)**

	Boardroom 6/7	Boardroom 1/2/3	Committee Room 4
10h50	<b>Session 18: Remote Sensing</b> <i>Dr. Christian Koyama, Dr. Waldo Kleynhans</i>	<b>Session 19: Electronic Support / Electronic Attack</b> <i>Ferdie Potgieter, Chris Mocke</i>	<b>Session 20: Interesting Radar History (10h40)</b> <i>Francois Anderson</i>
10h50	<b>Classification of Hybrid-Pol Data Based on Euclidean Distance Between Stokes Vectors</b> <i>Ajeet Kumar, Rajib Panigrahi</i>	<b>On the detectability of MIMO radar signals using conventional electronic support (ES) receivers</b> <i>Jacques Cilliers, Yen-Hsiang Huang, M. A. van Wyk</i>	<b>Huelsmeyer's Telemobiloskope</b> <i>Herman Rohling</i>
11h10	<b>Airborne X- and Ku-Band Single-pass DSM Generation by means of METASENSING Radar</b> <i>Luca Marotti, Alex Coccia, Adriano Meta</i>	<b>Investigation of Hopped Frequency Waveforms for Range and Velocity Measurements of Radar Targets</b> <i>Umur Kathree, Willie Nel, Vanessa Janse v Rensburg, Amit Mishra</i>	<b>Klein Heidelberg: New Information and Insight (paper in proceedings)</b> <i>Hugh Griffiths</i>
11h30	<b>Use of Sentinel-1 data for vessel detection in South African oceans: Early results</b> <i>Waldo Kleynhans, Brian Salmon, Colin Schwegmann, Lizwe Mdakane</i>	<b>Adaptive Monopulse Estimation in Mainlobe Jamming for Non-Rectangular Planar Arrays</b> <i>Xinzhu Chen, Ting Shu, Fei Huang, Zhi Tan, Wenxian Yu</i>	<b>South African History</b> <i>Francois Anderson</i>
11h50	<b>Monitoring structures with Fast-GBSAR</b> <i>Simone Placidi, Adriano Meta, Luana Testa, Sabine Rodelsperger</i>	<b>Practical Direction of Arrival System Evaluation</b> <i>Rossouw van der Merwe, Francois Maasdorp, Warren du Plessis, Louis Linde</i>	<b>Polish Radar Early History</b> <i>Piotr Samczynski</i>
12h10	<b>Detection and Classification of Sub-Surface Objects by Polarimetric Radar Imaging</b> <i>Christian Koyama, Motoyuki Sato</i>	<b>Noise jamming of a FM based commensal radar</b> <i>Michael Inggs, Craig Tong, Daniel O'Hagan, Urs Böniger, Urs Siegenthaler, Christof Schüpbach, Hans Pratisto</i>	<b>British Airborne Radar (Early history)</b> <i>Simon Watts</i>

**12h30 LUNCH (Bill Gallagher Room)**

**13h15 Closing address and awards ceremony (Bill Gallagher Room)**

 <p><b>Bronze supporters:</b></p>    	<p><b>Exhibitors:</b></p>          
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