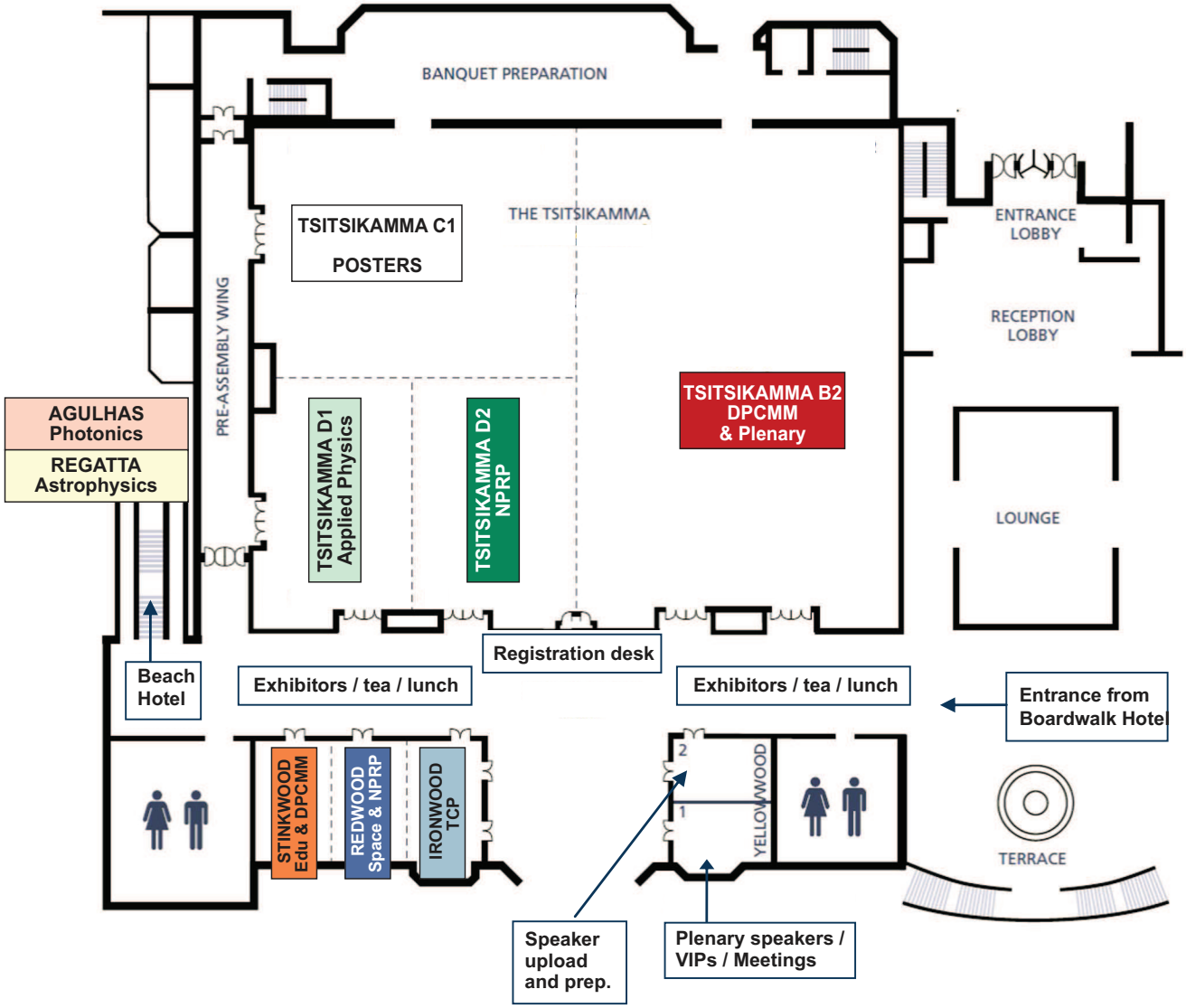
Map and Venue List

Boardwalk Convention Centre & Beach Hotel



A1: Div. for Physics of Condensed Matter and Materials (Tsitsikamma B2)	A2: Div. for Physics of Condensed Matter and Materials (Stinkwood)
B1: Nuclear, Particle and Radiation Physics (Tsitsikamma D2)	B2: Nuclear, Particle and Radiation Physics (Redwood)
C: Photonics (Agulhas)	
D1: Astrophysics (Regatta)	
D2: Space Science (Redwood)	
E: Educational Physics (Stinkwood)	
F: Applied Physics (Tsitsikamma D1)	
G: Theoretical and Computational Physics (Ironwood)	

Guidelines for Speakers and Chairs

Speakers

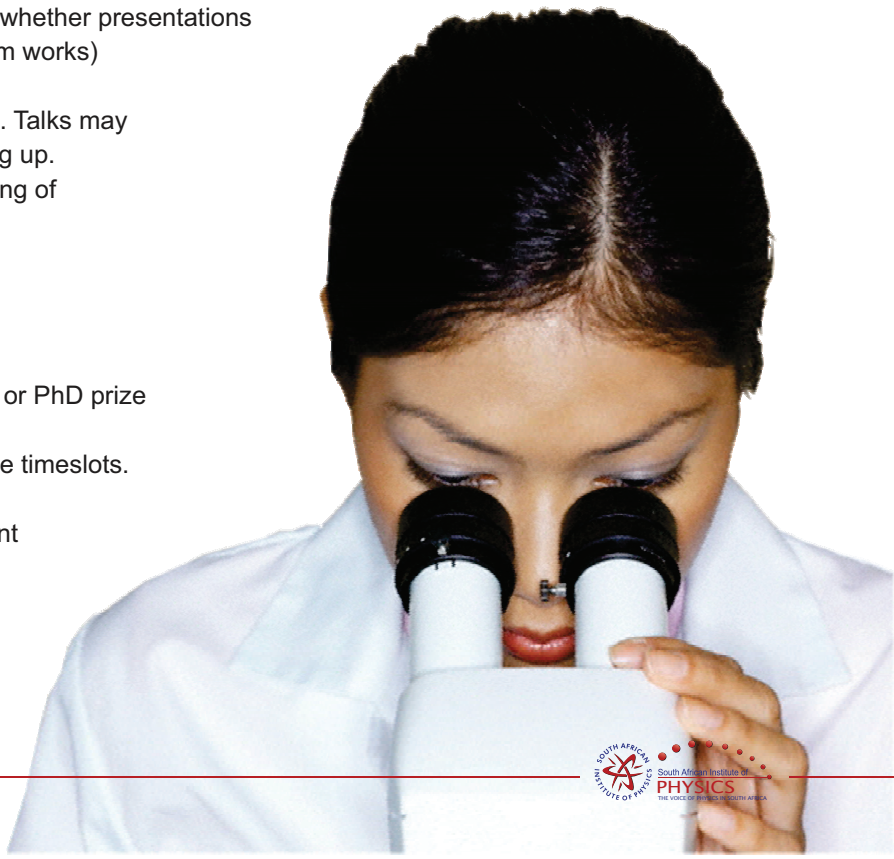
- 20 minute slots have been allocated for orals: 15 minutes for presentations and 5 minutes for questions. You will be warned of the time 13 minutes into the talk
- It is important to double check the date, time and venue for your presentation(s)
- Ensure that your presentation is UPLOADED IN THE YELLOWWOOD 1 ROOM before the start of the session
- An assistant has been assigned to each venue, please make use of them
- Be on time and report to the chair whether:
  - This is part of a group presentation.
  - You are competing for a prize.
- You are not allowed to move your presentation to any other slot
- Once the chair indicates the end of your session, you must stop your presentation immediately
- Laser pointers will be available from the session assistants

Posters

- Posters should be displayed on the allocated board for the duration of the conference
- Board assignments will be according to contribution number
- If you present more than one poster, we'll try to place then on adjacent boards
- You must be available at your poster during the assigned poster session
- Judging for student prizes will occur during the assigned poster sessions only

Chairs

- Please keep to the scheduled times
- Make it a point that you re-check the date, time and venue of your session
- Please be on time, at least 5 minutes before your session starts.
- Consult with the session assistant in the venue (whether presentations are on computer and how the microphone system works)
- Identify the speakers before your session starts.
- No alterations are to be made to the programme. Talks may not be moved earlier due to a speaker not turning up.
- Welcome delegates and speakers at the beginning of your session
- Make the following announcements:
  - All cellphones are to be switched off
  - The title and name of the speaker
  - Whether it is a group presentation
  - Whether the speaker competes for an MSc or PhD prize
- Thank all the speakers at the end of the session
- Allow questions according to time. Stay within the timeslots.
- Report shortcomings to the session assistant
- Report to the front desk if the speaker was absent



General Information

REGISTRATION DESK

The registration desk will operate daily in the foyer area. A message board will be situated here. Operating times:

Monday, 29 June:	07h30-19h00
Tuesday, 30 June:	07h00-17h00
Wednesday, 1 July:	08h00-17h00
Thursday, 2 July:	08h00-17h00
Friday, 3 July:	08h00-13h00

EMERGENCY NUMBERS

For any type of emergency please enquire at the registration desk. Emergency numbers:

Netcare Ambulance	082 911
St Georges Hospital	041 392 6111
Greenacres Hospital	041 390 7000
Fire & Emergency Services	041 585 1555
24 hour Poison Centre	021 931 6129
Police Flying Squad	101 11
Alpha Pharm Summerstrand Pharmacy	041 583 2128
GP - Dr André Killian	041 583 2121

NAME TAGS

Wear name tag at all times to gain access to the venue of the conference, lecture halls, social functions and lunches

POSTER SESSIONS

Posters should be put up on the poster boards on the Tsitsikamma Room, for the duration of the conference. It is important that presenters avail themselves during their allocated poster session(s) for discussions. DPCMM Posters (to be judged for awards) must be presented during both poster sessions.

LUNCHES, TEA AND REFRESHMENTS

All teas and lunches will be served in the foyer area.

PRESENTATION UPLOAD FACILITIES

Your presentation must be uploaded in the Yellowwood 2 room at least one session before the allocated timeslot. This room is operational on:

Monday, 29 June:	07h30-19h00
Tuesday, 30 June:	07h30-17h00
Wednesday, 1 July:	07h30-17h00
Thursday, 2 July:	07h30-17h00
Friday, 3 July:	07h30-13h00

TRANSPORT

Transport during the conference is for your own arrangement. For Airport Transfers, contact Ilios Travel on +27 (0)82 440 5811 / mariskadelport@ilios.co.za (Cost: R 165pp one way)

SAIP GOLF SHIRTS

Ordered shirts will be issued during registration. Additional items will be on sale throughout the duration of the conference at the registration desk.

WIFI / INTERNET

Complimentary WIFI is available, just connect and access your browser.

Organising Committee

NMMU and Rhodes University

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Makaiko Chithambo (Chairperson) (RU)
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SAIP Divisions and Meetings

DIVISION		E-MAIL	MEETING
Division for Physics of Condensed Matter and Materials	Prof. Japie Engelbrecht	dcmpm@saip.org.za	Thursday 2 July @ 11:10
Nuclear, Particle and Radiation Physics	Dr. Simon Mullins	nuclear@saip.org.za	Thursday 2 July @ 16:10
Photonics	Prof. Erich Rohwer	photonics@saip.org.za	Thursday 2 July @ 11:30
Astrophysics and Space Science	Dr. Chris Engelbrecht (Astro) Dr. John Bosco Habarulema (Space)	astro@saip.org.za space@saip.org.za	Thursday 2 July @ 14:40
Physics Education	Dr. Sam Ramaila	education@saip.org.za	Thursday 2 July @ 14:00
Applied Physics Forum	Prof. Ernest van Dyk	applied@saip.org.za	Wednesday 1 July @ 09:40
Theoretical and Computational Physics	Prof. Kristian Müller-Nedebock	theoretical@saip.org.za	Thursday 2 July @ 11:10

Meeting list

MEETING	TIMESLOT	VENUE
CSIR Rental Pool Meeting	Sunday 28 and Monday 29 June	Stinkwood
SAIP Council Meeting - Outgoing Council	Monday 29 June 10:00 - 16:00	Yellowwood 2
SAIP Council Meeting - Incoming Council	Monday 29 June 16:00 - 17:30	Yellowwood 2
Inaugural NASSP Consortium Meeting	Tuesday 30 June @ 14:00 - 15:40	Regatta Room
WiPiSA Lunch	Wednesday 1 July 13:10 - 14:00	Foyer
Plenary speakers and students lunch	Thursday 2 July 13:10 - 14:00	Foyer
SAIP Council Meeting with HODs	Wednesday 1 July 17:30 - 20:00	Yellowwood 2
SAIP Council Meeting with Division Heads	Thursday 2 July 17:10 - 18:10	Yellowwood 2
SAIP Annual General Meeting	Friday 3 July 14:00 - 15:30	Tsitsikamma B2

Non Specialists Lectures

TRACK	PRESENTER	CONTRB.	TITLE	TIMESLOT
DPCMM	Prof. VENTER, Andrew	368	Neutron diffraction facilities MPISI and PITSI at SAFARI-1	Thursday 2 July @ 15:00
Photonics	Prof. FORBES, Andrew	458	Accelerating light	Wednesday 1 July @ 11:30
Astrophysics	Prof. VENTER, Christo	243	Cosmic rays from binary millisecond pulsars	Wednesday 1 July @ 14:00
Education	Dr. LOUW, Wynand	395	South Africa and the International Measurement System: Billion or Trillion?	Thursday 2 July @ 09:40
Applied	Mr. DE BEER, Frikkie	313	Penetrating Radiation: The Power of Tomography as an Analytic Research Tool	Tuesday 30 June @ 14:00
Applied	Dr. JOHANNES, Manfred	384	Non-destructive Testing of wind power generators	Thursday 2 July @ 14:00
Theoretical	Prof. CORNELL, Alan	53	Hyperbolic extra-dimensions in particle physics and beyond	Thursday 2 July @ 14:00

Winter School : International year of light

The International Year of Light Photonics Winter School
Venue : Ironwood Room

		PRESENTER	TOPIC
MONDAY 29 JULY 2015	08:15	Prof. EG Rohwer	Welcome & Introduction
	08:30	Dr. H Uys	Trapping and cooling of single ionized atoms
	09:45	Dr. P Neethling	THz spectroscopy
	10:30	Tea & Coffee break	
	11:00	Prof. A Forbes	Light manipulation
	12:45	Dr. G Bosman	Ultrafast spectroscopy
	13:00	Lunch	
	14:00	Prof. H Swart	Luminescent materials
	14:45	Dr. T Kruger	Photosynthesis
	15:30	Tea & Coffee break	
	16:00	Student chapters	Light demonstrations

Opening Ceremony

Boardwalk Convention Centre, Monday 29 June 2015
Dress code: Smart Casual
Cash Bar available

18h00 Arrival

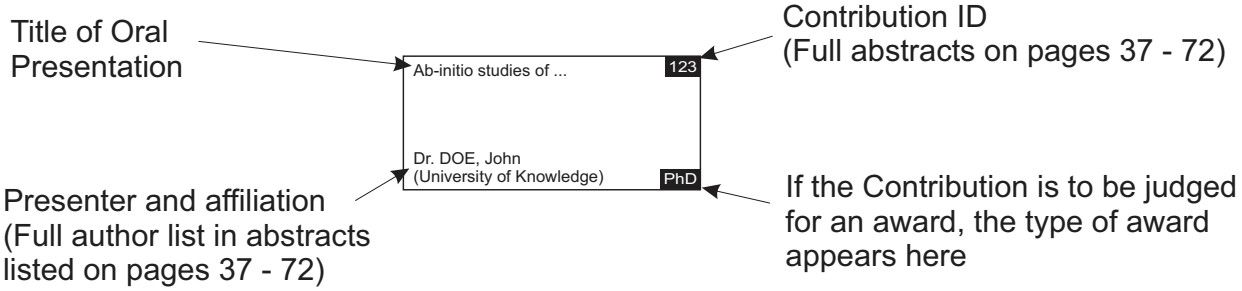
18h30 Welcoming address
SAIP2015 Chair(s)

18h35 Message from the Dean

18h45 Message from the SAIP President
Prof. Igle Gledhill

19h00 Cocktail function

Timetable Legend



TUESDAY 30 JUNE 2015

08:30 - 09:00	**Welcome Address**				
09:00 - 10:00	**PLENARY: Prof. COMINS, Darrell** **Optical Techniques Applied to Materials Physics (ID: 324)**				
TRACK	**A1: Div. for Physics of Condensed Matter and Materials (TsitsikammaB2)**	**A2: Div. for Condensed Matter Physics and Materials (Stinkwood)**	**B1: Nuclear, Particle and Radiation Physics (Tsitsikamma D2)**	**C: Photonics (Agulhas)**	
Theme Chair	**PhD for award Dr. Kumar, Vinod**	**MSc for award Dr. Kumar, Vinjay**	**- Dr. Mullins, Simon**		
10:00 - 10:20	Why MnO_2 is used as a catalyst in Li-air batteries and not TiO_2 52 Ms. MAENETJA, Khomotso (University Of Limpopo) PhD	Electrodeposited Ni Nanowires-Track Etched P.E.T. Composites as Selective Solar Absorbers 8 Mr. LUKHWA, Rendani (University of Western Cape) MSc	Test for traditional vibrational wisdom in 110,112Cd by two proton stripping 138 Mr. MAQABUKA, Bongani (University of the Western Cape) PhD		
10:20 - 10:40	Study of the interdiffusion in Ni/Cu multilayer thin films by Auger electron spectroscopy depth profiling 60 Mr. YAN, XinLiang (University of the Free State) PhD	Evolutionary algorithm simulation study of Manganese dioxide nanoclusters 27 Mr. MASOGA, Wesley (University of Limpopo) MSc	Nuclear structure studies in the A=136 mass region using transfer reactions 90 Ms. REBEIRO, Bernadette (University of the Western Cape) PhD		
10:40 - 11:10	**Tea & Coffee Break**				
Theme Chair	**PhD for award Dr. Kumar, Vinod**	**Msc for award Dr. Kumar, Vinjay**	**- Prof. Karataglidis, Steven**	**Medical Photonics Dr. Naidoo, Darryl**	
11:10 - 11:30	Selenization dependence of morphological, structural and electrical properties of $Cu_2ZnSn(S,Se)_4$ thin ilms deposited by one-step sputtering 64 Dr. YIHUNIE, Moges Tsega (University of The Free State) PhD	Computational Modelling Studies of Platinum Telluride Minerals 40 Mr. SELOWA, Phatholo (University of Limpopo) MSc	Statistical properties of Zirconium-91 140 Mr. ZIKHALI, Bonginkosi Richard (Zikhali) MSc	Gene Expression Changes in Diabetic Wound Healing as Induced by Photobiostimulation in vitro 77 Ms. AYUK, Sandra, M. (University of Johannesburg) PhD	
11:30 - 11:50	Exciton energies of chalcopyrites AgAlX2 (X=S,Se,Te) from GW and BSE calculations 85 Mr. DONGHO NGUIMDO, Guy Moise (University of the Witwatersrand) PhD	Synthesis, structural and optical characterisation of cobalt (Co) and indium (In) co-doped ZnO nanoparticles 55 Mr. MASWANGANYE, Mpho (Universtity of Limpopo) MSc	Second-order Coulomb excitation effects from the GDR 168 Prof. ORCE, Nico (University of the Western Cape) -	Irradiation of in vitro melanoma cells with low intensity laser in the presence of hypericin and aluminium (III) phthalocyanine chloride tetrasulphonate for use in photodynamic diagnosis 155 Ms. NDHUNDHUMA, Ivy (University of Johannesburg) -	
11:50 - 12:10	Structural and magnetic properties of $NiFe_2O_4$/NiFe bi-magnet and NiFe nano-alloy synthesized from thermal reduction of $NiFe_2O_4$ 98 Mr. EZEKIEL, Itegbeyogene (UKZN) PhD	Comparison of optical and luminescence properties of as prepared and annealed ZnO nanoparticles synthesized using sol-gel method 84 Mr. UNGULA, Jatani (University of the Free State) MSc		Ability of Gold Nanoparticles in mediating cellular damage in human breast cancer cells (MCF-7) using laser irradiation 219 Mr. MFOUO TYNGA, Ivan (Laser Research Centre) PhD	
12:10 - 13:10	**PLENARY: Prof. KOSCH, Michael** **Space Weather - why should we care? (ID: 385)**				
13:10 - 14:00	**Lunch Break**				
Theme Chair	**PhD for award Dr. Diale, Mmantsae**	**MSc for award Prof. Meyer, Walter**	**- Prof. Connell, Simon**	**Fibre Photonics Dr. McLaren, Melanie**	
14:00 - 14:20	Ab-initio studies of Tm^{3+} interstitial defects in Germanium (Ge) using Hybrid Functional HSE06 103 Mr. IGUMBOR, Emmanuel (University of Pretoria) PhD	Hydrogenation of Ti6Al4V alloy and Commercially Pure (CP) Ti 108 Ms. MAZWI, Sive (University of the Western Cape/ iThemba LABS) MSc	Search for a Neutral MSSM Higgs bosons in the tau-tau final state in early Run II collision data at ATLAS 93 Mr. HAMITY, Guillermo (Honours Physics Student) PhD	Fibre Bragg grating sensor to measure shrinkage in a concrete overlay 74 Mr. GROBLER, Michael (University of Johannesburg) -	
14:20 - 14:40	Electronic and Optical Properties of monolayer MX 2 M= Zr, Hf; X=S, Se from first principles calculations 113 Mr. ABDULSALAM, Mahmud (Wits University) PhD	First principle study of Xanthate and Diethyldithiophosphate adsorption on PtS 154 Ms. MASENYA, Mamogo (University of Limpopo) MSc	Jet substructure: a discovery tool at the LHC 61 KAR, Deepak (University of Witwatersrand) -	Fibre Optic Temperature Measurement Sensors for a Robotic Hand 75 Mr. MOORCROFT, Ronald (University of Johannesburg) -	
14:40 - 15:00	Formation of chemical compound layer due to reaction-diffusion process 146 Mr. AKINTUNDE, Samuel (University of Pretoria) -	Phosphorescence of hototransferred thermoluminescence in annealed synthetic quartz 182 Mrs. KOMBE, Elizabeth Fende Midiki nee Atang (Rhodes University) MSc	Multiple Bremsstrahlung Using MHV Technique 151 Mr. RASOANAIVO, Andriniaina Narindra (UCT) PhD	A Nonlinear Optical loop Mirror enhanced three wavelengths Erbium doped fiber laser 110 Mr. QHUMAYO, Siyanda (student) MSc	
15:00 - 15:20	Computer simulation study of water adsorption on {110} surface of nickel-rich pentlandite ($Fe_4Ni_5S_8$) mineral 176 Mr. MKHONTO, Peace (University of Limpopo) PhD	Multi-Dimensional Analysis of Precipitates in a 12% Cr Steel 233 Ms. DEYZEL, Genevéve (NMMU) MSc	Probing new physics in the Higgs sector with effective field theories at the Large Hadron Collider 43 Prof. MELLADO, Bruce (University of Wisconsin - Madison) -	Development of Single Mode 2076.4 nm Holmium-doped Fibre Laser 365 Dr. WU, Lorinda (CSIR-NLC) -	
15:20 - 15:40	Ferromagnetism in Chromium-doped Rutile, Anatase and Brookite phases of Titanium dioxid 183 Ms. MULWA, Winfred Mueni (University of the Free State) PhD	Surface Brillouin Scattering Characterization of Bismuth Ferrite Thin Films 278 Mr. AYELE, Fekadu (University of the Witwatersrand) MSc	Status of the measurements of Higgs boson properties with the ATLAS detector 42 Prof. MELLADO, Bruce (University of Wisconsin - Madison) -		
15:40 - 16:10	**Tea & Coffee Break**				
16:10 - 18:00	**POSTER SESSION 1: DPCMM** **Refer to p32 - 33 for poster list**				

Welcome Address				08:30 - 09:00
PLENARY: Prof. COMINS, Darrell Optical Techniques Applied to Materials Physics (ID: 324)				09:00 - 10:00
D1: Astrophysics (Regatta)	**F: Applied Physics (Tsitsikamma D1)**	**G: Theoretical and Computational Physics (Ironwood)**		**TRACK**
Theoretical Models **Dr. Engelbrecht, Christian**	**-** **Prof. van Dyk, Ernest**			**Theme Chair**
Stellar Streams: Modelling and Methodology 418 Dr. DEG, Nathan (UCT) -	Reconfigurable Wavelength Selective Switching for 10 Gbps Optical Fibre Ring Networks 345 Mr. BOIYO, Duncan (Nelson Mandela Metropolitan University) PhD			10:00 - 10:20
Beyond Mixing-Length Theory: an advanced approach to treating convective energy transfer in stars 272 Mr. MOONSAMY, Sashin (University of the Witwatersrand) PhD	Performance Comparison between the Traditional Intensity Modulation Direct Detection and Coherent Detection in a High Speed Optical Fibre Communication System 351 Mr. CHABATA, Tichakunda Valentine (NMMU) PhD			10:20 - 10:40
Tea & Coffee Break				10:40 - 11:10
Radio Astronomy **Dr. Moin, Aquib**	**-** **Prof. Winkler, Hartmut**	**-** **Prof. Botha, André**		**Theme Chair**
Modeling antenna primary beams using characteristic basis function patterns 421 Mr. IHEANETU, Kelachukwu (Rhodes University) PhD		Firewall Argument for Acoustic Black Holes 173 Mr. PONTIGGIA, Luca (University of the Witwatersrand) -		11:10 - 11:30
Intensity Mapping Techniques for Radio Observation 288 Mr. ANSAH-NARH, Theophilus (Rhodes University) -	Portable QKD Device Using the COW Protocol 169 Ms. PILLAY, Sharmini (University of KwaZulu-Natal) PhD	The Simplest Gauge-String Duality 17 Mr. NKUMANE, Lwazi (University of witwaterstrand) MSc		11:30 - 11:50
A Study Of Potential Calibrators Using The KAT-7 Telescope 406 Mr. KASSAYE, Ermias (Rhodes University) PhD	Electronic tracking system for quantum cryptography and radio telecommunication 306 Dr. MARIOLA, Marco (UKZN) -	Relativistic Quantum Mechanics On Non-commutative Space 76 Mr. WILLIAMS, Paul Henry (Stellenbosch University) MSc		11:50 - 12:10
PLENARY: Prof. KOSCH, Michael Space Weather - why should we care? (ID: 385)				12:10 - 13:10
Lunch Break				13:10 - 14:00
- **Prof. Chetty, Nithaya**	**-** **Dr. Hayes, Michael**	**-** **Prof. Muronga, Azwinndini**		**Theme Chair**
457	**NON-SPECIALIST LECTURE:** 313 Penetrating Radiation: The Power of Tomography as an Analytic Research Tool Mr. DE BEER, Frikkie (Necsa)	Large N Conformal Field Theory from Gauge Theory/ Gravity Dualityan Analytic Research Tool 25 Mr. HASINA TAHIRIDIMBISOA, Nirina Maurice (University of the Witwatersrand) PhD		14:00 - 14:20
		Integrability in Giant Graviton Dynamics 28 Mr. MAHU, Augustine Larweh (University of the Witwatersrand) PhD		14:20 - 14:40
Inaugural NASSP Consortium Meeting	Simulation of radiography beam collimation using ray tracing method 321 Mr. NSHIMIRIMANA, Robert (NECSA) PhD	Double Coset Magnons 247 Prof. DE MELLO KOCH, Robert (University of the Witwatersrand) -		14:40 - 15:00
	Spatial resolution evaluation of digital neutron radiography and tomography facilities 376 Mr. RADEBE, Mabuti Jacob Radebe (Necsa) PhD	Prodding QGP in N=4 SYM with Stringy Yo-yos 192 Mr. MOERMAN, Robert (University of Cape Town) Hons		15:00 - 15:20
	X-ray diffraction and Raman spectroscopy based residual stress measurements for assessment of fatigue in leached polycrystalline diamond tool bits 291 Mr. VHARETA, Maxwell (University of the Witwatersrand) PhD	Non-Fermi Liquid Fixed Point in a Wilsonian Theory of Quantum Critical Metals 111 Mr. RABAMBI, Teflon (Wits university) MSc		15:20 - 15:40
Tea & Coffee Break				15:40 - 16:10
POSTER SESSION 1: DPCMM **Refer to p32 - 33 for poster list**				16:10 - 18:00

TUESDAY 30 JUNE 2015

WEDNESDAY 1 JULY 2015

08:40 - 09:40	**PLENARY: Prof. YAKIMOVA, Rositsa** Growth and physical properties of graphene mediated structures (ID: 56)			
TRACK	**A1: Div. for Physics of Condensed Matter and Materials (TsitsikammaB2)**	**B1: Nuclear, Particle and Radiation Physics (Tsitsikamma D2)**	**C: Photonics (Agulhas)**	**D1: Astrophysics (Regatta)**
Theme Chair	**MSc for award** **Prof. Neethling, Johannes**	**-** **Dr. Mira, Joel**	**Beamshaping** **Dr. Neethling, Pieter**	**Large-Scale Structure and Cosmology** **Dr. Leeuw, Lerothodi**
09:40 - 10:00	297 Armorphization and Recrystallization of spinel $LiMn_2O_4$ nano-architectures Ms. LEDWABA, Raesibe Sylvia (University of Limpopo) MSc	26 Monte Carlo simulations to obtain the weak magnetism term for ^{22}Na beta decay Mr. PHUTHU, Lutendo (University of the Western Cape) MSc	7 Measuring the "vectorness" of a vector vortex beam Dr. MCLAREN, Melanie (University of the Witwatersrand) -	292 Studying Stellar Populations of Luminous Red Galaxies to probe the Hubble Parameter H(z) Dr. RATSIMBAZAFY, Ando (North-West University) -
10:00 - 10:20	314 Thermodynamic and mechanical stability studies of Zr-Nb(Co) alloys Mr. MALEBATI, Magoja Martinus (student) MSc	6 Variation of dose distribution with depth and incident energy using EGSnrc Monte Carlo simulation method Mr. ODERINDE, Oluwaseyi Michael (University of the Free State) PhD	145 Angular Accelerating White Light Dr. DUDLEY, Angela (CSIR National Laser Centre) -	405 A PAPER-32 Stokes I Sky Catalogue Mr. PHILIP, Liju (Rhodes University) MSc
10:20 - 10:40	353 Density functional theory study of methane dissociation over Pd nanoclusters Ms. CHUMA, Moyahabo Hellen (University of Limpopo) MSc	360 Generation and validation of Monte Carlo signal events for the H->ZdZd->4l Analysis Mr. UNWUCHOLA, Doomnull Attah (University of Johannnesburg) PhD	422 Wigner distribution function and the complex curvature applied to Laguerre-Gaussian modes propagating through first order systems Dr. MAFUSIRE, Cosmas (University of Pretoria) -	442 Dynamical mass estimates of Sunyaev-Zel'dovich effect selected galaxy clusters in the Millennium Gas simulations Mr. MTHEMBU, Nhlakanipho Kwaz (Student) MSc
10:40 - 11:10	**Tea & Coffee Break**			
Theme Chair	**MSc for award** **Prof. Neethling, Johannes**	**-** **Prof. Connell, Simon**	**-** **Prof. Rohwer, Erich**	**Large-Scale Structure and Cosmology** **Dr. Leeuw, Lerothodi**
11:10 - 11:30	441 Investigation of the annealing behaviour of the donor-vacancy complex in alpha-particle irradiated Ge Mr. BARNARD, Willem (University of Pretoria) MSc	271 Measurement of single muon vs charged particle multiplicity at the LHC – an outlook study Ms. MHLANGA, Sibaliso (Post Graduate) MSc	452 The Fundamentals of Single Molecule Microscopy Dr. BOSMAN, Gurthwin (Stellenbosch University) -	400 The Vela Supercluster - does it provide the missing link to explain the local flow fields Mr. ELAGALI, Ahmed (Cape Town University) MSc
11:30 - 11:50		207 Performance of missing transverse momentum reconstruction in ATLAS Ms. LIAO, Shell-may (University of the Witwatersrand) -	458 **NON-SPECIALIST LECTURE:** Accelerating light	124 From darkness comes multi-frequency emission: dark matter after PLANCK Mr. BECK, Geoff (University of Witwatersrand) PhD
11:50 - 12:10			Prof. FORBES, Andrew (U. Witwatersrand)	
12:10 - 13:10	**PLENARY: Prof. FOLKS, Liesl** Status of Women in STEM in the US (ID: 472)			
13:10 - 14:00	**Lunch Break**			
Theme Chair	**PhD for award** **Dr. Hayes, Michael**	**-** **Mulaba-Bafubiandi, Antoine**	**-** **Dr. Steenkamp, Christine**	**Pulsars** **Dr. Engelbrecht, Christian**
14:00 - 14:20	188 Simultaneous substitution of Ba, Mn and Co into Fe_3O_4 spinel structure: Magnetic and electrochemical sensing properties of the synthesized nanoparticles Mr. OSMAN, Nadir (University of KwaZulu-Natal) PhD	216 The Impact of Re-homogenisation for Nodal Cross-section Corrections in OSCAR-4 as Applied to SAFARI-1 Research Reactor Mr. CHINAKA, Eric (North-west University & NECSA) MSc	191 Terahertz Time-Domain Ellipsometry Mr. SMITH, Shane (Physics Post Graduate Student) PhD	243 **NON-SPECIALIST LECTURE:** Cosmic rays from binary millisecond pulsars
14:20 - 14:40	223 Dependence of the photo-ionization cross-section of a-Al2O3:C on the measurement tempera Mr. NYIRENDA, Angel (Rhodes University) PhD	177 The development of a neutron converter for the production of radioactive beams at iThemba LABS Mr. NGCOBO, Zipho (iThemba Labs) PhD	197 Surface Enhanced Raman Spectroscopy (SERS) of bio-molecules Ms. PFUKWA, Cathrine (Stellenbosch University) MSc	Prof. VENTER, Christo (North-west University, Potchefstroom Campus)
14:40 - 15:00	239 Computational Study on Advanced Lithium – Sulphur Battery for Future Portable Energy Storage Mr. MASEDI, Cliffton (UL/ CSIR) PhD	48 An analysis and quantification of typical errors in the deterministic calculational path for research reactor modelling Mr. GINA, Thembelani (University of Johannesburg, Necsa) MSc	201 Supercontinuum pulse compression Mr. VILJOEN, Ruan (Stellenbosch University) MSc	218 Very-high-energy emission from pulsars Ms. BREED, Monica (North-West University) -
15:00 - 15:20	261 Magnetic and Structural Properties of Mn0.2Cr1.8-xFexO3 Nanoparticles Mr. MBELA, Kalengay (UKZN) PhD	337 Fast Neutron Radiography at an RFQ Accelerator System Mr. DANIELS, Graham (Necsa) -	214 Fluorescence spectra of carbon monoxide isotopomers upon vacuum ultraviolet excitation Mr. DE BRUYN, Andre (Stellenbosch University) MSc	24 A Timing Noise Analysis Pipeline for HartRAO pulsars Mr. JACQUES, Maritz (UFS) PhD
15:20 - 15:40		212 Data processing at the Necsa neutron diffraction facility Mr. MARAIS, Deon (Necsa) PhD	408 Development of kHz applied optical remote sensing for atmospheric insect monitoring applications Mr. GEBRU, Alem (Stellenbosch University & Lund University) PhD	312 Optical spectroscopy of PSR B1259-63 around the 2014 periastron passage Dr. VAN SOELEN, Brian (University of the Free State) -
15:40 - 16:10	**Tea & Coffee Break**			
16:10 - 18:00	**POSTER SESSION 2: DPCMM (for award), NPRP, Photonics, Astro, Edu, Applied, TCP** **Refer to p32 - 36 for poster lists**			

PLENARY: Prof. YAKIMOVA, Rositsa
Growth and physical properties of graphene mediated structures (ID: 56)

08:40 - 09:40

D2: Space Science (Redwood)	E: Educational Physics (Stinkwood)	F: Applied Physics (Tsitsikamma D1)	G: Theoretical and Computational Physics (Ironwood)	TRACK
Ionospheric TEC modelling **Dr. Maharaj, Shimul Kumar**	**-** **Dr. Reddy, Leelakrishna**	**-** **Prof. van Dyk, Ernest**	**-** **Prof. de Mello Koch, Robert**	Theme Chair
189 Data assimilation into a climatological model Dr. HABARULEMA, John Bosco (South African National Space Agency) -	294 Why we need a Physics Olympiadinel $LiMn_2O_4$ nano-architectures Mr. RIJSDIJK, Case (ASSA/SAIP) -	468	346 Biological filament interacting with molecular motors Mr. MEYLAHN, Janusz (Stellenbosch University) MSc	09:40 - 10:00
121 A comparison of measured TEC data with results based on the IRI and NeQuick 2 ionospheric models over a chain of mid latitude stations near the geographic meridian of 28° situated in the Southern hemisphere Mr. SICHONE, Gift L. (Department of Physics, University of Zambia) -	23 University physics students' views about scientific inquiry Dr. RAMAILA, Sam (University of Johannesburg) -	**DIVISION MEETING**	215 A model describing two-exciton effects in photosynthetic light-harvesting systems Mr. NÖTHLING, Johan (University of Pretoria) MSc	10:00 - 10:20
69 Single station TEC modelling during storm conditions Mr. UWAMAHORO, Jean Claude (SANSA) MSc	273 Using classroom response systems to promote active learning Dr. HERBERT, Mark (University of the Western Cape) -		256 One and two dimentional models of dye adsorption for application in dye sensitized solar cells Dr. MALUTA, Nnditshedzeni Eric (University of Venda) -	10:20 - 10:40
Tea & Coffee Break				10:40 - 11:10
Theoretical Space Plasma Physics **Dr. Habarulema, John Bosco**	**-** **Mr. Rijsdijk, Case**	**-** **Mr. De Beer, Frikkie**	**-** **Prof. de Mello Koch, Robert**	Theme Chair
184 Forbidden gap regions in ion-acoustic solitons Dr. MAHARAJ, Shimul Kumar (SANSA) -	206 Why Do Students Distinguish Between Net Force and Total Force? Mr. SOUTHEY, Philip (UCT) PhD	92 Rutherford Backscattering Analysis using lithium ions Prof. DERRY, Trevor (University of the Witwatersrand) -	33 Simulating mechanical annealing of atomic-sized gold surfaces via classical molecular dynamics and density functional theory transport calculations Mr. DEDNAM, Wynand (UNISA) MSc	11:10 - 11:30
126 Large amplitude slow and fast electron-acoustic solitons and supersolitons in three-electron temperature space plasmas Mr. MBULI, Lifa (SANSA) PhD	430 Student difficulties with DC circuits: misconceptions or sense making? Mr. JOHN, Ignatius (CPUT) -	274 Unfolding the fast neutron fluence energy distribution of a NE230 deuterated liquid scintillator detector using the MAXED code Dr. HERBERT, Mark (University of the Western Cape) -	86 Structural, electronic and thermal properties of Sn clathrates Mr. EGBELE, Peter (University of the Witwaterrand) MSc	11:30 - 11:50
221 The effect of an ion beam on ion-acoustic supersolitons Dr. OLIVIER, Carel (SANSA) -		293 In-situ neutron powder diffraction temperature capabilities at SAFARI-1 Dr. HAYES, Michael (Necsa) -		11:50 - 12:10
PLENARY: Prof. FOLKS, Liesl Status of Women in STEM in the US (ID: 472)				12:10 - 13:10
Lunch Break				13:10 - 14:00
GICs, pulsations, ionospheric irregularities and electrodynamics. Kosch & Mtumela	**-** **Dr. Herbert, Mark**	**-** **Dr. Vorster, Frederik**	**-** **Prof. Konrad, Thomas**	Theme Chair
13 Modelling ground conductivity for computing the electric field associated with geomagnetically induced currents (A mid latitude case study) Mrs. MATANDIROTYA, Electdom (CPUT & SANSA) PhD	229 Exploring teachers' baseline knowledge of mechanics Dr. RAMAILA, Sam (University of Johannesburg) -	204 Solar radiometry and forecasting research at UKZN Dr. MATTHEWS, Alan (UKZN) -	383 The numerical investigation of the stochastic Schroedinger equation with memory Mrs. IULIIA, Semina (UKZN) -	14:00 - 14:20
11 Investigation of Pc5 pulsation events using Sanae radar and ground-based magnetometer data during northward interplanetary magnetic field (IMF) interval Dr. MTUMELA, Zolile (SANSA) -	58 The light bulb effect: University students' problem solving cognitive processes in a physics problem solving skills test Dr. ALBERS, Claudia (WITS University) -	158 Monte Carlo based estimation of the effect of different aerosol classes on solar irradiance in African atmospheric conditions Ms. CYULINYANA, MARIE CHANTAL (University of Johannesburg) PhD	265 Process tomography within the hybrid formalism Ms. BASSA, Humairah (UKZN and NLC, CSIR) PhD	14:20 - 14:40
94 Characterization of the Multipath Environment of Ionospheric Scintillation Receivers Ms. ATILAW, Tsige (SANSA & UCT) MSc	397 Teaching of the Strand Planet Earth and Beyond in Primary School Natural Science Prof. LEEUW, Lerothodi (University of South Africa) -	320 Is solar PV generated electricity cheap in South Africa? Dr. RORO, Kittessa (CSIR) -	170 Projection operators in the theory of open quantum systems Dr. SEMIN, Vitalii (UKZN) -	14:40 - 15:00
54 Estimating plasma drift velocities in the low latitude regions within the African sector Mr. DUBAZANE, Makhosonke (SANSA) -		367 Energy yield monitoring of photovoltaic technologies Mr. SCHULTZ, Ross (NMMU) -		15:00 - 15:20
88 Ionospheric pre-geomagnetic disturbance enhancements over African equatorial and midlatitude regions Ms. ORFORD, Nicola (SANSA) PhD		390 Characterization of torrefied sugarcane bagasse for gasification in a downdraft biomass gasifier system Mr. ANUKAM, Anthony (University of Fort Hare) PhD		15:20 - 15:40
Tea & Coffee Break				15:40 - 16:10
POSTER SESSION 2: DPCMM (for award), NPRP, Photonics, Astro, Edu, Applied, TCP **Refer to p32 - 36 for poster lists**				16:10 - 18:00

WEDNESDAY 1 JULY 2015

THURSDAY 2 JULY 2015

08:40 - 09:40	**PLENARY: Prof. KUTSCHERA, Walter** **Exploring the World with Accelerator Mass Spectrometry (ID: 393)**			
TRACK	**A1: Div. for Physics of Condensed Matter and Materials (TsitsikammaB2)**	**B1: Nuclear, Particle and Radiation Physics (Tsitsikamma D2)**	**C: Photonics (Agulhas)**	**D1: Astrophysics (Regatta)**
Theme Chair	- **Dr. Venter, Andrew**	- **Dr. Masiteng, Paulus**	- **Dr. Bosman, Gurthwin**	**Computational Techniques Mr. Moonsamy, Sashin**
09:40 - 10:00	152 Embedding of noble metal nanoparticles and study of optical and photoluminescence properties induced by ion irradiation Dr. PRAKASH, Jai (UFS) -	67 Alpha particle scattering within the MCAS approach Prof. KARATAGLIDIS, Steven (University of Johannesburg) -	285 A Near Infrared Femtosecond Laser Source for Observation of Charge Transfer Processes in Semiconductors Ms. AHMED, Essraa (MSc student) MSc	332 A 'road test' of ANOVA versus DFT and LS as a period-finding algorithm Dr. ENGELBRECHT, Christian (University of Johannesburg) -
10:00 - 10:20	210 Investigation of nuclear reactor materials using modern electron microscopy techniques Prof. NEETHLING, Johannes (NMMU) -	107 Developing the high data-throughput ADC daughter board of the PROMETEO test-bench for the upgrade of the ATLAS Tile Calorimeter Mr. SPOOR, Matthew (WITS) MSc	370 Ultrafast photochromism in metal-organic complexes Mr. VON STEIN, Xavier (Stellenbosch University) MSc	364 Fast Scheme for Approximating an Off Set PSF Response Mr. ATEMKENG, Marcellin (Rhodes University) PhD
10:20 - 10:40	70 The PITSI neutron powder diffractometer at the SAFARI-1 Research Reactor Ms. SENTSHO, zeldah (Necsa) -	78 GPU-based Computation of Energy & Time for the Upgrade of the Tile Calorimeter of the ATLAS Detector" Mr. SACKS, Marc (University of the Witwatersrand) MSc	31 Novel zincate phosphors: A new red-emitting phosphors for LED applications Dr. KUMAR, Vijay (University of the Free State) -	
10:40 - 11:10	**Tea & Coffee Break**			
Theme Chair	- **Prof. Swart, Hendrik**	- **Dr. Kar, Deepak**	- **Prof. Rohwer, Erich**	**Gamma A Dr. Moharana, Reetanjali**
11:10 - 11:30	463 **DIVISION MEETING**	153 Exploring the Dark Sector extension to the Standard Model via the Higgs Portal Prof. CONNELL, Simon (University of Johannesburg) -	409 Ultrafast mapping of crystallic structural changes in organic radical salts Mr. SMIT, Bart (MSc Student) PhD	39 Synchrotron Modelling of the gamma-ray to optical afterglow of GRB 130427A and expected neutrino flux Mrs. KAYYUNNAPARAYIL THOMAS, Jessymol (UJ) PhD
11:30 - 11:50		159 Dark matter production in association with Higgs bosons through heavy scalar resonance at the LHC Mr. VON BUDDENBROCK, Stefan (University of the Witwatersrand) MSc	465 **DIVISION MEETING**	230 Radio Observations Of GRB 100418a: Test Of An Energy Injection Model Explaining Long-Lasting GRB Afterglows Dr. MOIN, Aquib (UJ) -
11:50 - 12:10		44 Search for the Higgs boson in the di-photon decay in association with intermediate missing energy with the ATLAS detector Ms. LIAO, Shell-may (WITS) MSc		263 Implementation of a goodness-of-fit test for finding optimal concurrent radio & gamma-ray pulsar light curves Mr. SEYFFERT, Albertus (North-West University) PhD
12:10 - 13:10	**PLENARY: Dr. VAN ZYL, Jakob** **Exploring the Solar System and Beyond: Some Recent Results (ID: 470)**			
13:10 - 14:00	**Lunch Break**			
Theme Chair	- **Prof. Swart, Hendrik**	- **Dr. Winkler, Stephan**	- **Prof. Forbes, Andrew**	**Gamma B Dr. Moin, Aquib**
14:00 - 14:20	242 Effects of Cd2+ concentration on the structure, optical and luminescent properties of MgAl2O4:x% Cd2+ phosphor prepared by sol-gel method Mr. MOTLOUNG, Setumo Victor (University of the Free State) -	416 Radioelement results which was obtained with a self-developed measuring method of a new in situ gamma ray detection system Dr. BEZUIDENHOUT, Jacques (Stellenboch University) -	132 Hong-Ou-Mandel interference for the orbital angular momentum Bell States - a high dimensional analysis Dr. ZHANG, Yingwen (CSIR) -	371 H.E.S.S. observations of radio galaxies Mr. DAVIDS, Isak Delberth (North West University) PhD
14:20 - 14:40	250 Magnetic properties of Ni-substituted Co-nanoferrites Mr. NDLOVU, Bongani (UKZN) -	449 A calibration facility for in-situ gamma-ray detector efficiency Mr. SEHONE, Alfred (Stellenboch University) MSc	220 Implementing the Deutsch Algorithm with classical light Mr. PEREZ-GARCIA, Benjamin (University of the Witwatersrand) -	141 Possible extragalactic astrophysical counterparts of IceCube neutrino events Dr. MOHARANA, Reetanjali (UJ) -
14:40 - 15:00	29 Role of defects in the emission of undoped and doped ZnO thin film prepared by pulsed laser deposition Dr. KUMAR, Vinod (University of the Free state) -	287 Plasma diagnostics on the GTS-ECRIS at iThemba Labs Mr. SAKILDIEN, Muneer (iThemba LABS) -	80 Communication through fibres using cylindrical vector vortex modes. Mr. NDAGANO, Bienvenu (University of the Witwatersrand) MSc	466 **DIVISION MEETING**
15:00 - 15:20	368 **NON-SPECIALIST LECTURE:** Neutron diffraction facilities MPISI and PITSI at SAFARI-1	317 Ion Sources used to produce different beams at iThemba LABS Dr. MIRA, Joele (iThemba LABS) -	257 Fundamental Laguerre-Gaussian (LGp0) mode with lower output power threshold Mr. BELL, July (CSIR) PhD	
15:20 - 15:40	Prof. VENTER, Andrew (NECSA)	238 Investigating prompt gamma cross-section data using a Geant4-simulated AFRODITE detector system Ms. RAMANATHAN, Vijitha (University of Cape Town) PhD	366 Controlled injection of higher-order modes into an optical fiber from a solid state digital laser Mr. NGCOBO, Sandile (CSIR) -	
15:40 - 16:10	**Tea & Coffee Break**			
Theme Chair	- **Prof. Dejene, Francis**	- **Dr. Mullins, Simon**		**Galaxy Rotation Curves Prof. Venter, Christo**
16:10 - 16:30	381 Characterisation of traditional ceramic materials used in the Sotho culture (South-Africa) for clay pot making Ms. HLEKANE, Phindile (University of Johannesburg) -	464 **DIVISION MEETING**		2 Solving the puzzle of galaxy rotation with a gravitomagnetic form of Newton's Law Prof. WAGENER, Pieter (University of Fort Hare) -
16:30 - 16:50	300 SBS observation of higher order resonances in annealed, carbon implanted CVD Dr. MATHE, Bhekumusa (University of the Witwatersrand) -			399 Rotation Curves and Bars: Accounting for non-circular motions in barred spiral galaxies Mr. RANDRIAMAMPANDRY, Toky (University of Cape Town) PhD
16:50 - 17:10	440 An ab-initio study of the metastability of the boron-vacancy (B-V) complex in silicon Dr. MEYER, Walter (University of Pretoria) -			

THURSDAY 2 JULY 2015

PLENARY: Prof. KUTSCHERA, Walter
Exploring the World with Accelerator Mass Spectrometry (ID: 393)

08:40 - 09:40

D2: Space Science (Redwood)	E: Educational Physics (Stinkwood)	F: Applied Physics (Tsitsikamma D1)	G: Theoretical and Computational Physics (Ironwood)	TRACK
Heliospheric Physics **Dr. Olivier, Carel**	**-** **Dr. Ramaila, Sam**	**-** **Dr. Kibirige, Betty**		Theme Chair
443 A new approach to modeling the heliospheric current sheet Mr. RAATH, Jan-Louis (North-West University) PhD	395 **NON-SPECIALIST LECTURE:** South Africa and the International Measurement System: Billion or Trillion? Dr. WYNAND, Louw (NMISA)	51 Determining the effect of the solar cell band gap on power yield in southern African irradiance conditions Mr. WEBBER, Graham (University of Johannesburg) MSc		09:40 - 10:00
410 The Solar-Cycle Dependence of the Heliospheric Diffusion Tensor Ms. NEL, Amoré (North-West University, SANSA) MSc		259 Enhancing light absorption and life-time stability of organic solar cells using pentacene encapsulation Mr. OTIENO, Francis (University of Witwatersrand) MSc		10:00 - 10:20
95 Acceleration of galactic electrons at the solar wind termination shock and their journey beyond Mr. PRINSLOO, Phillip (North-West University) MSc		244 Analysis of homogeneity in thin film photovoltaic modules using large area light beam induced current (LA-LBIC) measurements Mr. OKULLO, Michael (NMMU) PhD		10:20 - 10:40
Tea & Coffee Break				10:40 - 11:10
Different aspects of Space Physics **Dr. Habarulema, John Bosco**	**-** **Dr. Albers, Claudia**	**-** **Dr. Matthews, Alan**	**-** **Müller-Nedebock, Kristian**	Theme Chair
50 Analysis of ionospheric response during geomagnetic storms for mid and low latitudes Mrs. MATAMBA, Tshimangadzo Merline (SANSA) PhD		253 Qualitative assessment of Photovoltaic modules using Electroluminescence Ms. CROZIER, Jacqui (NMMU) -	469	11:10 - 11:30
308 The study on the short term planetary wave activity in the MLT region over Southern Hemisphere using SuperDARN HF radar Mr. NGWANE, Ntlakanipho (Student) MSc	326 Effect of guided inquiry laboratory activities on first-year physics students' views on the nature of science Mr. BALOYI, Vonani Michael (University of Pretoria) PhD	277 Estimation of energy production decrease due to shading for the Nampower rooftop system Ms. DOBREVA, Petja (NMMU) -	**DIVISION MEETING**	11:30 - 11:50
96 An Integrated Software Based Analytical Model for the Signal Path Efficiency of the HartRAO Lunar Laser Ranger Optical System Mr. NDLOVU, Sphumelele (HartRAO) PhD	396 Perceptions of Professional Academic Development: Barriers and bridges between physics lecturers and physics education researchers Dr. LOMBARD, Elsa (NMMU) -	282 On the effect of optical configuration on the performance of different multijunction cells used in H-CPV systems Mr. SCHULTZ, Ross (NMMU) PhD		11:50 - 12:10
PLENARY: Dr. VAN ZYL, Jakob Exploring the Solar System and Beyond: Some Recent Results (ID: 470)				12:10 - 13:10
Lunch Break				13:10 - 14:00
Division Meeting (with Astro) **Dr. Habarulema, John Bosco**	**-** **Dr. Ramaila, Sam**	**-** **Prof. Derry, Trevor**	**-** **Dr. Semin, Vitalii**	Theme Chair
	467 **DIVISION MEETING**	384 **NON-SPECIALIST LECTURE:** Non-destructive Testing of wind power generatorsr the Nampower rooftop system Dr. JOHANNES, Manfred (CSIR)	53 **NON-SPECIALIST LECTURE:** Hyperbolic extra-dimensions in particle physics and beyond Prof. CORNELL, Alan (NITheP)	14:00 - 14:20 14:20 - 14:40
466 **DIVISION MEETING in Astrophysics Venue (Regatta)**		429 Optimizing low Reynolds number wind turbine blades Mr. POOLE, Sean (NMMU) PhD	112 Quasi-Normal Modes for Spin-3/2 Fields Mr. HARMSEN, Gerhard (University of Witswaters Rand) MSc	14:40 - 15:00
		262 Hot Mirrors for Parabolic Trough Solar Receivers Dr. FERRER, Phil (WITS) -	161 Hypothesising the effects of Higgs portal dark matter in particle colliders Mr. VON BUDDENBROCK, Stefan (University of the Witwatersrand) MSc	15:00 - 15:20
		290 Efficiency Increase in a Cold Sprayed Hot Mirror Parabolic Trough Solar Collector Mr. KALUBA, Victor (WITS) PhD	260 Thermoluminescence from semiconductor quantum dots Prof. DEJENE, Francis (UFS) MSc	15:20 - 15:40
Tea & Coffee Break				15:40 - 16:10
		- **Dr. Roro, Kittessa**	**-** **Dr. Semin, Vitalii**	Theme Chair
		32 Gum ghatti-based poly (acrylic acid-aniline) IPN hydrogel: Characterization and release properties Dr. SHARMA, Kashma (University of the Free State) -	49 The Influence of Increased Temp on the Miscibility and Mechanical Properties of poly(2,5-benzimidazole) and polytetrafluoroethylene Mrs. SQUARE, Lynndle (UWC) PhD	16:10 - 16:30
		115 A comparison of solid state reaction, electrical performance & failure mechanism of ruthenium Schottky contacts on 6H-SiC and 4H-SiC after air annealing Mr. MUNTHALI, Kinnock Vundawaka (UP and University of Namibia) PhD	267 Fano-like scattering in nanocomposites Mr. LETA T. JULE, Leta T. Jule (Addis Ababa University) -	16:30 - 16:50
		100 Synthesis of porous carbon nanosheets for use in high rate capability and long cycle life supercapacitors Dr. DANGBEGNON, Kouadio Julien (University of Pretoria) -	343 Theoretical studies of mutual neutralization in collisions of He + + H- and Li+ + F- Mr. NKAMBULE, Sifiso (Stockholm Univeristy) -	16:50 - 17:10

	F: Applied Physics (Tsitsikamma3)
17:10 - 17:30	123 Structural and optical properties of silicon nanowires Prof. ARENDSE, Christopher (UWC) -
17:30 - 17:50	199 X-ray Reflectivity Study of Si Nanowires Grown by Ag Nanoparticle Etching Prof. MICELI, Paul F. (University of Missouri) -

FRIDAY 3 JULY 2015

08:40 - 09:40	**PLENARY: Prof. FORBES, Andrew** **1,2,3 …. infinity: high-dimensional quantum entanglement with patterns of light (ID: 459)**				
TRACK	**A1: Div. for Physics of Condensed Matter and Materials (TsitsikammaB2)**	**B1: Nuclear, Particle and Radiation Physics (Tsitsikamma D2)**	**B2: Nuclear, Particle and Radiation Physics (Redwood)**	**C: Photonics (Agulhas)**	
Theme Chair	**- Prof. Connell, Simon**	**- Dr. Mullins, Simon**	**- Dr. Mbele, Vela**	**Biophysics Dr. Krüger, Tjaart**	
09:40 - 10:00	Effect of pH on ZnO nanostructures prepared by chemical bath method Dr. KOAO, Lehlohonolo (UFS (Qwa Qwa)) -	114	A multiplet of chiral bands in 194Tl: DSAM lifetime measurements Dr. LAWRIE, Elena (iThemba LABS) -	335	An Integration Framework Tool for ATCAs in the ATLAS Detector Control System Mr. REED, Robert (University of Witwatersrand) PhD	148	Investigating the excited electronic states of carotenoids in the main plant light-harvesting complex (LHCII) via femtosecond pump-probe spectroscopy Ms. SINGH, Asmita (University of Pretoria) MSc	87
10:00 - 10:20	Developing Iron Oxide Nanoparticle Biosensors through Simulation and Modelling Mr. HARRIS, Richard (UFS / Mintek) -	125	Multiple chiral bands in 193Tl Mr. NDAYISHIMYE, Joram (Stellenbosch University) PhD	315	A di-Higgs Search in the ggbb Decay Channel Using the ATLAS Detector Mr. REED, Robert (University of Witwatersrand) PhD	147	Femtosecond pump-probe spectroscopy on wild-type and mutant antenna complexes from Arabidopsis thaliana Mr. PARADZAH, Alexander (University of Pretoria) PhD	198
10:20 - 10:40	Optimization of a small-angle neutron scattering instrument using the VITESS model Mr. TJEBANE, Tjatji (Necsa) -	162	The design and simulation of a new experimental set up for measuring short nuclear level lifetimes Mr. SINGH, Bhivek (University of the Western Cape) MSc	174	A Portable ReadOut ModulE for Tilecal ElectrOnics (PROMETEO) test-bench for the certification of the Tile Calorimeter of the ATLAS detector Dr. KUREBA, Chamunorwa Oscar (University of the Witwatersrand) -	66	Using single-molecule spectroscopy methods to investigate the environmental dependencies of photoprotection in the main plant light harvesting complex. Mr. BOTHA, Joshua (University of Pretoria) MSc	228
10:40 - 11:10	**Tea & Coffee Break**				
Theme Chair	**- Prof. Prinsloo, Aletta**	**- Dr. Ntshangase, Sifiso**	**- Dr. Jones, Pete**	**Biophysics Dr. Krüger, Tjaart**	
11:10 - 11:30	Collective Electronic Excitations in Ferromagnetic Metals Dr. NOLTING, Volkmar (Vaal University of Technology) -	15	Fine structure of the isovector Giant Dipole Resonance in neutron-rich calcium isotopes using the (p,p') reaction at 200 MeV Mr. LATIF, Mouftahou (University of the Witwatersrand) PhD	358	Crosstalk correction for the iThemba LABS segmented clover detector Mr. NONCOLELA, Sive (UWC, iThemba LABS) PhD	336	Ultrafast energy transfer and photoprotection in the light-harvesting complexes of the diatom Cyclotella meneghiniana Mr. ELNOUR, Huzifa (University of Pretoria) PhD	237
11:30 - 11:50	Study of Electrical Conductivity of Pr^{3+} Containing Lithium Borate Glasses by Impedance Spectroscopy Dr. RAMTEKE, Durgaprasad (University of the Free State -	16	A study of the Isovector Giant Dipole Resonance across the neodymium and samarium isotope chains Ms. DONALDSON, Lindsay (University of the Witwatersrand) PhD	119	Comparative study of proton induced radiation damage in plastic scintillators for the Tile Calorimeter of ATLAS Ms. JIVAN, Harshna (University of the Witwatersrand) MSc	99	Using single molecule spectroscopy to study the role of low-energy fluorescence bands in the photoprotection of the major plant light harvesting complex Mr. STOLTZ, Herman (University of Pretoria) MSc	258
11:50 - 12:10	Scanning probe microscopy in material science and biology Dr. URGESSA, Zelalem N. (NMMU) -	252	Search for scissor resonance in 182Ta Mr. BRITS, C.P. (University of Stellenbosch) MSc	149	Generation of Time-Stamps by a Digital Data Acquisition System Mr. ERASMUS, Nicholas (University of the Western Cape) PhD	327		
12:10 - 12:30			Extraction of statistical properties in 181Ta to investigate nucleo-synthesis of 180Ta Mr. MALATJI, Kgashane (UWC) MSc	240	Online energy reconstruction on ARM for the ATLAS TileCal sROD co-processing unit Mr. COX, Mitchell (University of the Witwatersrand) MSc	136		
12:30 - 12:50			Characterisation of potential cluster states in 16O Mr. LI, Kevin (Stellenbosch University, iThemba Labs) MSc	83	Developing a sorting code for Coulomb-excitation studies at iThemba LABS Mr. MEHL, Craig (University of the Western Cape) MSc	414		
12:50 - 13:10			The Design and Construction of an Active Target Detector for the Study of the 20Ne(a,a')20Ne* Reaction Mr. BRUMMER, Johann Wiggert (Stellenbosch University) MSc	420	A study of radiation damage in plastic scintillators using magnetic resonance techniques for the upgrade of the ATLAS detector Mr. PELWAN, Chad (University of Witwatersrand) MSc	45		
13:10 - 14:00	**Lunch Break**				
14:00 - 15:30	**ANNUAL GENERAL MEETING**				
18:30	**2015 SILVER JUBILEE BANQUET**				

FRIDAY 3 JULY 2015

PLENARY: Prof. FORBES, Andrew 1,2,3 …. infinity: high-dimensional quantum entanglement with patterns of light (ID: 459)				08:40 - 09:40
D1: Astrophysics (Regatta)	**F: Applied Physics (Tsitsikamma D1)**	**G: Theoretical and Computational Physics (Ironwood)**		**TRACK**
Different Perspectives Mr. van Soelen, Brian	**- Dr. Ferrer, Phil**	**- Prof. de Mello Koch, Robert**		**Theme Chair**
Optical Observations of the Be/X-ray Binary A0538-66 187 Dr. RAJOELIMANANA, Andry Fitiavana (University of the Free State) -	From single nano-wire nano-electronics through gas FETs to deployable portable industrial sensing devices 171 Dr. MWAKIKUNGA, Bonex (CSIR National Laser Centre) -	CHPC Introduction to Linux and Python Course: A capacity building tool for High Performance Computing 415 Dr. MOEKETSI, Daniel Mojalefa (CSIR Meraka Institute (CHPC)) -		09:40 - 10:00
Search for Extreme Metal-Poor Stars in the Edinburgh-Cape Blue Object Survey 444 Mr. XABANISA, Sivuyile (University of the Western Cape) MSc	Open-Source electronic board designed in South-Africa, for Africa 432 Dr. MARIOLA, Marco (University of kwazulu-natal) -	Non-universality of a constrained period doubling route to chaos for Rössler's system 38 Prof. BOTHA, André (Unisa) -		10:00 - 10:20
	Comparative analysis of the performance of integrated and split type air source heat pump water heaters by diagnostic characterization 10 Mr. TANGWE, Stephen (University of Fort Hare) PhD	Progress in Relativistic Electro-Magneto-Fluid Dynamics of Polarized Media 378 Prof. MURONGA, Azwinndini (University of Johannesburg) -		10:20 - 10:40
Tea & Coffee Break				10:40 - 11:10
Active Galactic Nuclei Dr. Engelbrecht, Christian	**- Prof. Arendse, Christopher**			**Theme Chair**
The Sub-millimeter Continuum Emission of Cygnus A 208 Prof. LEEUW, Lerothodi (University of South Africa) -	Acceleration parameters for fluid physics with accelerating bodies 338 Prof. GLEDHILL, Irvy (Igle) (CSIR) -			11:10 - 11:30
A quasi-periodicity in the optical polarization of the blazar PKS 2155-304? 234 Ms. PEKEUR, Nikki (UCT) PhD	Characteristics and function of the South African national measuring standard for force 47 Mr. DLAMINI, Sipho (National Metrology Institute of SA) -			11:30 - 11:50
Optical spectroscopic observations of unclassified Active Galactic Nuclei in the Fermi-2LAC catalogue 225 Ms. KLINDT, Lizelke (University of the Free State) MSc	BLAZE-DEM: A GPU based large scale 3D discrete element particle transport framework 104 Mr. GOVENDER, nicolin (CSIR,UP) -			11:50 - 12:10
	Resonant absorption of electro-magnetic radiation by building materials 222 Mr. MTHOMBENI, Godman (University of Johannesburg) -			12:10 - 12:30
	Time of crossing (TOC) in Pulsed Eddy Current Signals 190 Dr. KIBIRIGE, Betty (University of Zululand) -			12:30 - 12:50
	Progress with the Colliding Shock Lens 375 Mr. MAHLASE, Conrad (SAIP) -			12:50 - 13:10
Lunch Break				13:10 - 14:00
ANNUAL GENERAL MEETING				14:00 - 15:30
2015 SILVER JUBILEE BANQUET				18:30

Boardwalk Convention Centre, 3 July 2015

Dress code: Semi-formal / Smart-casual
Cash Bar available

18:30	**Arrival**
19:00	Welcoming address
19:10	Message from the VC
19:30	**Starter is served**
19:45	Awarding of Student Prizes (SAIP President & Specialist Group Chairs)
20:15	**Dinner is served**
20:45	Silver Jubilee Medal Award
21:00	SAIP Presidency handover
21:15	**Desert is served**
21:30	Vote of Thanks and handover to SAIP2016 Organisers
21:35	Final Remarks - Plenary speaker representative
21:45	**Coffee** & Entertainment

Poster Session 1: Tue. 30 June 16:10 - 18:00

DPCMM - Chair: Prof. Swart, Hendrik

Board	Presenter	Title *[For Award - Also judged during Poster session 2 on Wednesday 1 July]*
A.030	NGQOLODA, Siphelo	Vertically aligned silicon nanowires synthesized by metal-assisted chemical etching for photovoltaic applications [For award: MSc]
A.034	SEPHTON, Bereneice	Determination of the band gap of AlGaN epilayers by FTIR reflectance spectroscopy
A.057	PELWAN, Chad	A density functional theory and magnetic resonance studies of radiation damage in plastic scintillators [For award: MSc]
A.059	YAN, XinLiang	A quantification evaluation of the depth resolution of AES depth profiling data of Cu/Ni multilayer thin films using the MRI model [For award: PhD]
A.062	MOFOKENG, Jabulani	Characterization of Palladium (Pd) coated Titanium alloy (Ti6Al4V) [For award: MSc]
A.063	KORE, Bhushan	Thermoluminescence investigations in K3Ca2(SO4)3F:Dy phosphor [For award: PhD]
A.073	WAKO, ALI HALAKE	Influence of alkaline earth metal cations; Ca^{2+}, Sr^{2+} and Ba^{2+} on the structural and optical properties of MAl_2O_4: Eu^{2+}, Nd^{3+} phosphors. [For award: PhD]
A.082	JILI, Thulani	Calculation of the contribution of core states in CdF2 to the electron-positron annihilation momentum density using generalized gradient approximation.
A.097	SHAI, Moshibudi	XRD and AFM studies of graphene and single-walled carbon nano tube
A.101	REDDY, Leelakrishna	Isolation and characterization of carbon nanoballs and nanofibers from an internal combustion (I.C) engine
A.105	MBIOMBI, WILFRED	Diamond -like carbon (DLC) thin films:Synthesis and investigation [For award: PhD]
A.106	TANKIO DJIOKAP, Stive Roussel	Influence of a buffer layer on the electrical properties of ZnO/Si heterojunction [For award: PhD]
A.122	OMOTOSO, Ezekiel	Effect of temperature annealing on 4H-SiC Schottky barrier diodes after alpha-particle irradiation at high fluences
A.127	MBULANGA, Crispin	Surface characterisation of ZnO nanorods grown by Chemical Bath Deposition on Si substrate [For award: MSc]
A.128	HASABELDAIM, Emad	Effect of Background gas and substrate temperature on ZnO:Zn thin films [For award: MSc]
A.129	NUBI, Olatunbosun	Calibrating the 8000M Ball Miller Using Anatase and Rutile Titania Nanoparticles
A.131	BASHIR, Aiman	Thermodynamic properties of NdCu4Au [For award: PhD]
A.134	THABETHE, Thabsile	The surface structure and interfacial reaction analysis of W in 6H-SiC
A.143	RIKHOTSO, Blessing	Computational modelling studies of recrystallised nano-architectured TiO2 structures at different lithium concentration and temperatures for energy storage applications. [For award: MSc]
A.160	NGEMA, Nokwanda MSOMI, Justice MOYO, Thomas	Synthesis and magnetic properties of Sn-doped CoFe2O4 nanoferrites [For award: MSc]
A.166	THETHWAYO, Charles Thulani	Structural and optical properties of TiN coatings produced by reactive magnetron sputtering at different substrate temperatures [For award: MSc]
A.167	MAPASHA, Edwin	The effects of Li adatoms on defected graphane: A first-principles study
A.172	NYENGE, Raphael Lavu	The influence of the number of pulses and post annealing on the morphology and photoluminescence properties of CaS: Eu^{2+} pulsed laser deposited thin films [For award: PhD]
A.175	ABBASS, Abd Ellateef	White luminescence from sol-gel silica doped with silver [For award: PhD]
A.178	MULLER, Theo	Catalyst-free thermal evaporation of Zn powder at atmospheric pressure
A.179	AHIA, Chinedu Christian	Investigation of MOVPE-InSb Quantum Dots grown using TMIn and TDMASb [For award: PhD]
A.180	TILE, Ngcali	MOCVD growth of GaSb/GaAs quantum dots [For award: PhD]
A.185	MANAMELA, MF RAMMUTLA, Erasmus	Synthesis and characterisation of mechano-chemically synthesised Zinc Oxide nanoparticles using ball milling
A.211	DIALE, Mmantsae	Electrical Characterization of MeV Alpha-particle Irradiated Ni/4H-SiC Diodes and their Recovery by Annealing Treatment
A.213	THEBE, Mohapi	Electrical characterization of undoped and niobium-doped n-silicon diodes [For award: MSc]
A.217	CHITHAMBO, Makaiko	The influence of annealing on radioluminescence and thermally stimulated luminescence in natural quartz
A.227	PRINSLOO, Aletta	Physical properties of $Cr_{78}Al_{22}$ thin films

A.231	TSHWANE, David Magolego	Computer simulation as a strategy for generating manganese dioxide nanotubes [For award: MSc]
A.232	MASHAMAITE, Mordecai	Computaional Modelling of Ti_{50-x} Pt_{50} Zr_x SMAs [For award: MSc]
A.241	MUDAU, patience	The magnetic properties of Cr + 1 at.% Al thin films [For award: MSc]
A.254	JACOBS, Bincy Susan	Electronic and magnetic properties of the $(Cr_{84}$ $Re_{16})_{100-x}$ Mn_x alloy system
A.276	CHONCO, Nelisiwe Princess	Synthesis and characterization of diamond like carbon (DLC) thin films for gas sensing applications [For award:MSc]
A.281	MSOMI, Justice	Mössbauer and magnetic study of Co(Ti,Sn)xFe2-xO4 nanoferrites
A.283	DOBSON, Stephen	High resolution X-ray diffraction and photoluminescence of $InAs_{1-x}$ Sb_x/GaSb
A.284	MAYIMELE, Meehleketo Advice	Electrical characterization of introduced in bulk grown ZnO during electron beam exposure [For award:MSc]
A.301	NCUBE, Siphephile	Multiwalled nanotube-rare earth magnet (MWNT-Gd) based spin valve design and characterization. [For award:PhD]
A.302	DANGA, Helga	Deep level defects in alpha-particle irradiated epitaxially grown silicon [For award: MSc]
A.304	MAHAFA, Tshepo	Microstructural analysis of proton irradiated zircaloy-4[For award: MSc]
A.305	MTHWESI, zuko	Thermoluminescence of annealed synthetic quartz [For award: MSc]
A.307	MOTLOUNG, Selepe	Structural and photoluminescence properties of LaV_{1-x} P_x O_4 :1 mol % Dy^{3+} phosphor powder prepared by solution combustion method
A.311	NSENGIYUMVA, Schadrack	Phototransferred thermoluminescence in argon implanted synthetic quartz
A.318	FOURIE, Antonie	CZTS solar cell: A green energy source produced in a green way. [For award: MSc]
A.322	NTSOANE, Tshepo	Time-evolution studies of thermal sprayed hydroxyapatite coatings
A.325	NETSIANDA, Makondelele	Prediction of Structures and Energy stabilities of VO_2 nanoparticles.
A.329	DEJENE, Francis	Effect of Pb doping and annealing temperature on the structural and optical properties ZnO nanoparticles synthesized by sol-gel method
A.331	MASIKHWA, Tshifhiwa Moureen	Preparation and electrochemical investigation of the cobalt hydroxide carbonate/activated carbon nanocomposite for supercapacitor applications [For award: PhD]
A.334	NETHAVHANANI, Takalani	Synthesis of ZnO nanoparticles by Green process and investigation of their growth mechanism [For award:MSc]
A.341	TUNHUMA, Shandirai	Electrical characterization of 5.4 MeV alpha particle irradiated, low doped n-type Gallium Arsenide. [For award:MSc]
A.361	SEFAGE, Amanda	Fabrication and Characterisation of CdO-CNS hybrid for LPG Sensing
A.374	MULAUDZI, Masilu Godfrey	Density functional theory calculation of surface properties of pyrite (100) and depression of pyrite using TGA. [For award:PhD]
A.377	NAMBALA, Fred Joe	Electrical characteristics of Pd Schottky contacts on ZnO and AZO nanoparticles
A.382	MULABA-BAFUBIANDI, Antoine-Floribert	Iron bearing minerals characterised with Mossbauer spectroscopy at the Mineral Processing and Technology Research Centre , University of Johannesburg, South Africa
A.411	ALI, Abdub	Energy transfer mechanisms and material properties of Y2O3: Eu3+:Ho3+ nanophosphors synthesized by sol- combustion method.
A.417	BHEBHE, NKOSIPHILE ANDILE	Laser excitation studies and crystal-field analysis of ZnO:Tb^{3+} and ZnO:Eu^{3+} powders[For award: MSc]
A.423	MEHLAPE, Mofuti	The modified interatomic potentials of FeS_2 in atomistic simulations
A.426	FOKA, Emily	Synthesis and Characterization of LaVO4:Ln (Ln=Eu, Li) by Combustion method [For award: PhD]
A.427	VENTER, Danielle	Electrical characterization of bulk 4H-SiC [For award: Hons]
A.431	MAPHANGA, R. Regina	Structure Prediction of Manganese Dioxide Nanoclusters Using Computer Simulation Techniques
A.435	MASINA, Bathusile	Synthesis of vanadium oxide (VxOy) using CO2 Laser Pyrolysis
A.447	COLEN, Manaka	Synthesis, photoluminescence and thermoluminescence of the BaAl2O4:Dy3+ phosphor[For award: MSc]
A.448	MURAPE, Davison Munyaradzi	Interface state density distribution in sulphur treated bulk Au/n-GaSb Schottky barrier diodes
A.450	MAABONG, Kelebogile	Thermal and compositional defects in dip-coated iron oxide (α-Fe_2O_3) thin film photoanodes: Effects on film properties
A.451	CONNELL, Simon	Ultra smooth surface of diamonds, towards Å scale roughness for the (111) orientation

Poster Session 2: Wed. 1 July 16:10 - 18:00

DPCMM (for award), NPRP, Photonics, Astro, Edu, Applied, TCP
Chair2: Prof. Swart, Hendrik, Dr. Mullins, Simon; Prof. Rohwer, Erich; Dr. Engelbrecht, Christian; Dr. Ramaila, Sam; Prof. van Dyk, Ernest; Prof. Muller-Nedebock, Kristian

Board	Presenter	Title [For Award]
B.012	GBAORUN, Frederick	Investigation of the Energy Spectra of Even-Even Nuclei in the Lower Half of the sd-Shell
B.035	KWETANA, Musa Lonwabo	Synthesis, Production and Tc-99m-DISIDA (N-2,6-diisopropylphenylcarbamoylmethyliminodiacetic) acid Scan [For award: Hons]
B.041	LIAO, Shell-may	Radiation hardness tests on different plastic scintillator grades for the upgrade of the Tile Calorimeter of the ATLAS detector [For award: MSc]
B.046	NTSHANGASE, Sifiso Senzo	Reaction mechanisms studied using the iThemba LABS recoil detector
B.091	MANTENGU, Nkanyiso Robert	Radiation Shielding Calculation using FLUKA transport code for Radiactive-ion Beam Facility at iThemba LABS. [For award: MSc]
B.102	LAMULA, Thobeka	Reaction rates determination using Monte Carlo simulations for the Bi target at 90 MeV neutron energy. [For award: MSc]
B.118	TLOU, Sijiye	Impact of dose rate on radiation damage of plastics scintillators for the Tile Calorimeter of ATLAS. [For award: 3rd]
B.120	O'CONNELL, Sheena	Viability of map-reduce algorithms for the measurement of Higgs boson properties with the ATLAS detector at the LHC [For award: MSc]
B.135	MOLUPE, Tshidiso	Understanding double Higgs boson production with vector boson fusion with the ATLAS detector at the LHC [For award: Hons]
B.165	OHENE-KWOFIE, Daniel	Efficient processing of physics quantities for the Processing Unit for the upgrade of the Tile Calorimeter of ATLAS [For award: PhD]
B.195	ADAMIAK, Daniel	High-Momentum Particle Production at RHIC, Fermilab, and LHC[For award: Hons]
B.196	WENTZEL, Farrel Sidney	Radon exhilation of building materials
B.203	DAMMALAPATI, U.	Ambient gamma dose rate measurements at Manyoni uranium mines, Singida, Tanzania
B.248	KUREBA, Chamunorwa Oscar	The search for Dark Matter in association with the Higgs boson with the di-photon decay
B.264	MABIKA, Phumzile	A precise measurement of the $½^+$ to $½^+$ ft value in ^{19}Ne beta decay [For award: MSc]
B.295	MOKGOLOBOTHO, Makabata Jeremia	Determining the spectroscopic quadrupole moment (Q_s) of the first 2^+ state in ^{40}Ar [For award: MSc]
B.296	SHIRINDA, OBED	Multiple chiral bands associated with the same strongly asymmetric many-particle nucleon configuration
B.298	GOSSMAN, David	Sensitivity to New Physics via the study of the Higgs boson transverse momentum at the ATLAS detector [For award: Hons]
B.309	NEMULODI, Fhumulani	Beam experiments with the Grenoble Test Electron Cyclotron Resonance Ion Source at iThemba LABS
B.330	DINOKO, Tshepo	Orientation of the Ge crystals of the iThemba LABS segmented clover detector
B.357	DINDIKAZI, Nomvelo	Single muon pT distributions from heavy quark decay in pp collisions at 7 TeV with ALICE [For award: MSc]
B.453	CONNELL, Simon	Channelling radiation of electrons in high-quality HPHT diamond single crystals
C.014	PANDEY, Anurag	Fluorescence behaviour of europium doped Gd2O3 nanosheets
C.081	NDAGANO, Bienvenu	Propagation of cylindrical vector beams through fibres[For award: MSc]
C.186	NDEBEKA, Wilfrid	Investigating charge carrier effects in silicon membranes using fs laser. [For award: PhD]
C.200	VILJOEN, Ruan	Demonstration of a new ultrafast pulse reconstruction modality – PIRANA [For award: MSc]
C.224	PEREZ-GARCIA, Benjamin	Implementing the Deutsch-Jozsa Algorithm with classical light

C.266	HASINJATOVO MANDANIRINA, Nambinintsoa Romeoh	Wavelength-modulated spectroscopy of the sub-band gap response of solar cell devices [For award: MSc]
C.323	BELL, July	Optimization of losses introduced by p absorbing mask in a Digital Laser (for award PhD]
C.348	MAWEZA, Loyiso	Creating and Measuring 2 μm Light Using a Spatial Light Modulator [For award: PhD]
C.425	NAIDOO, Darryl	Intra-cavity metamorphosis of a Gaussian beam to flat-top distribution
C.445	MQADI, Wonder Mhlakubuswa	Determination of the Origin of a High Frequency Signal Superimposed on the Light Emission detected from a Detonating Explosive in a Free Environment [For award: MSc]
D1.003	WINKLER, Hartmut	The unusually strong coronal emission lines of SDSS J1055+5637
D1.037	DIRIRSA, Feraol	Spectral studies of flaring quasar PKS 1424-418 above 100 MeV with Fermi-LAT [For award: PhD]
D1.156	VAN DER WESTHUIZEN, Izak	Numerical modelling of hydrodynamical astrophysical outflows [For award: MSc]
D1.340	AKOTO-DANSO, Alexander	Fringe Fitting Calibration of VLBI Data
D1.344	SEBOKOLODI, Makhuduga	New Minimization Techniques, Solvers and Calibration Algorithms [For award: MSc]
D1.404	MBOU SOB, Ulrich Armel	Investigating the Variability of Sources in the Data from the Karoo Array Telescope. U. Mbou Sob, S.K.Sirothia, T. Glober, O. Smirnov [For award: MSc]
D1.437	LEEUW, Lerothodi	Optical Spectra of Herschel Gravitational Lenses and their Astrophysical Implications
E.018	REDDY, Leelakrishna	Does proficiency in units and measurements contribute towards success in first year university physics?
E.019	RAMAILA, Sam	Exploring teaching-learning activity in large class groups
E.020	REDDY, Leelakrishna	Assessment of Physics practicals using a software-embedded and improvisation based scientifically efficient system
E.021	RAMAILA, Sam	Quality vs Quantity: the National Senior Certificate - a case study
E.022	RAMAILA, Sam	Global competitiveness as a barometer of scientific endeavor
E.079	TANCI, Sinovuyo	An overview of the mainstream mechanics first year module at the University of the Western Cape and students experiences of the module [For award: MSc]
E.398	REDDY, Leelakrishna	Soweto Science Centre as a community engagement initiative at the University of Johannesburg
E.419	REDDY, Leelakrishna	Expository vs Problem-based approach to Physics practicals at the University of Johannesburg-A case study
E.455	RAMAILA, Sam	A Comparative Study of the Preparedness for Undergraduate Studies of Students entering the University with South African Matriculation Examination results and Zimbabwe ZIMSEC Examination results.
F.005	MHUNDWA, Russel	Low cost empirical modelling to determine milk production in a dairy plant: A case study of Fort Hare Dairy Trust [For award: PhD]
F.065	TYALIMPI, Vumile	Metrology of Ultrasound and Underwater Acoustics at the National Metrology Institute of South Africa
F.071	SHILUVANE, Thulani	Determination of a neutron beam fluence energy distribution using multichannel unfolding code MAXED [For award: MSc]
F.072	NENGUDZA, Azwidovhiwi Emmanuel	Simulation of quasi-mono-energetic neutron beam fluence energy distributions at the iThemba LABS time-of-flight facility [For award: MSc]
F.089	KIPROTICH, Sharon	Thermoluminescence (TL) study ofβ-stimulated $BaAl_2O_4:Eu^{2+},Dy^{3+}$ phosphor [For award: PhD]
F.130	KROON, Ted	Experimental evaluation of emission models from a thermal evaporation source
F.139	NDLOVU, Nothando	Evaluation of an empirical model for a flat plate solar collector[For award: MSc]
F.205	SENEKANE, Makhamisa	A quantum walk-based MPPT optimization algorithm for a stand-alone PV system

F.209	DIX-PEEK, Ross	Measurement of diffusion capacitance of mono-crystalline and poly-crystalline photovoltaic cells using LBIC [For award: Hons]
F.226	ODUTEMOWO, opeyemi	Investigating the structural changes in strontium implanted glassy carbon using Multiwavelength Raman Spectroscopy [For award: PhD]
F.249	RADEMEYER, Yvette	Evaluation of photovoltaic modules using standard electrical power measurements and imaging techniques [For award: Hons]
F.251	ERASMUS, Lucas	Measuring the optical thermometry properties of a phosphor [For award: MSc]
F.310	MAXWELL, Christopher	Development of an in-house high precision experimental entanglement source [For award:Hons]
F.333	SHABALALA, Lizwi	Quantum Key Distribution Using Entangled Source [For award: Hons]
F.342	ISOE, George	Fibre-to-the-Hut Technology: A Solution to Cheap Access for High-Speed Optical Network in South Africa [For award: PhD]
F.349	MALUTA, Nnditshedzeni Eric	Analysis of temperature models for the computation of global solar radiation in the climatic conditions of Western Cape province of South Africa [For award: PhD]
F.350	DLAMINI, Phumla	Phase noise analysis for 1.7-14.5 GHz clock signal transmission over 12km telescope network optical fibre [For award: MSc]
F.362	QWABE, Henry Simphiwe	FPGA- based implementation of cascade error correction protocol for QKD applications [For award: MSc]
F.363	WASSIN, Shukree	Active phase correction using a VCSEL for clock tones transmitted along a 24 km optical fibre link [For award: PhD]
F.372	NGUBELANGA, Nolitha	Characterisation of municipal organic waste for microwave plasma gasification [For award: MSc]
F.391	MOMODU, Damilola	Simonkolleite-graphene foam composites and their superior electrochemical performance [For award: PhD]
F.394	KULA, Mpumezo	Morphological and elemental properties of sugarcane bagasse for gasification purposes [For award: MSc]
F.401	ARADI, Emily	Cross-section Electron Microscopy studies of Boron Implanted Hexagonal Boron Nitride
F.402	HLONGWANE, Senzo	Quantum State Tomography [For award: Hons]
F.413	NWOKOLO, Nwabunwanne	The design of a waste heat system capable of harnessing energy from the surface of a cyclone dust collector attached to a downdraft biomass gasifier [For award: PhD]
F.439	SIKAKANA, Ike	The Generation of Surface Acoustic Waves using a Normal Transducer and Perspex Wedges
G.004	KOLBE, Isobel	pQCD Short Path Length correction to Energy loss formulae [For award: MSc]
G.137	KOSSI, Amouzouvi	Density Functional Theory on a Lattice: Particle Number Dependence of the Exchange-Correlation Potential.[For award: PhD]
G.202	MOSUANG, Thuto	Molecular dynamics studies of Schottky and Frenkel defects in cerium dioxide
G.236	RAZZAQUE, Soebur	Neutrino mass hierarchy and CP phase measurement using atmospheric neutrino flux
G.245	NGOMANE, Alex Otavia MALUTA, Eric DE MELLO KOCH, Robert	Minimum Norm Estimates for the Bioelectromagnetic Inverse Problem
G.246	PHALA, Feredi	Computer modeling studies of the adsorption energies of heavy metals onto vermiculite surface
G.279	MAFU, Mhlambululi	Security of quantum key distribution
G.280	SENEKANE, Makhamisa	Higher dimensional quantum key distribution in the presence of quantum noise [For award: PhD]
G.359	CHIRWA, Max	A circular current's bi-Cartesian magnetic dipolar model and the bias in
G.373	MEIRING, Ben	The full spacetime description of jet evolution in the weakly coupled regime [For award: MSc]
G.380	MULAUDZI, Sophie	A comparative study of the three empirical solar models in North West, South Africa. [For award: PhD]