



# SAIP2013

## Tuesday 09 July 2013

### Applied: Biophysics (10:30-12:10)

**-Conveners: Tjaart Krüger**

time	[id] title	presenter
10:30	[453] Quantum coherence and transport processes in photosynthesis	Ms MARAIS, Adriana
11:10	[216] Femtosecond spectroscopy of the carotenoids in the main light-harvesting complex of plants	Mr BOTHA, Joshua
11:30	[119] The role of catalytic residues in amidases as revealed by mutagenesis and X-ray crystallography	Prof. SEWELL, Trevor
11:50	[160] Laser Penetration through different skin phototypes	Dr KARSTEN, Aletta

### Applied: Biophysics (14:10-15:10)

**-Conveners: RAYMOND WALTER SPARROW**

time	[id] title	presenter
14:10	[573] The mechanism of the amidases: Mutating the glutamate adjacent to the catalytic triad inactivates the enzyme	Prof. SEWELL, Bryan Trevor
14:30	[448] Modelling interacting filaments in motility assays	Prof. MÜLLER-NEDEBOCK, Kristian
14:50	[220] A matched quadruplet of terbium radionuclides for nuclear imaging and radionuclide therapy	Dr STEYN, Deon

### Applied: Materials (15:40-16:40)

**-Conveners: Mmantsae Diale**

time	[id] title	presenter
15:40	[33] Solid state reaction of ruthenium with silicon carbide, and the implications for its use as a schottky contact for high temperature operating schottky diodes.	Mr MUNTHALI, Kinnock Vundawaka
16:00	[111] The variation of dose rate dependence parameters of synthetic diamond detectors with electron energy	Mr ADE, Nicholas
16:20	[572] A Novel Mode of Current Switching Dependent on Activated Charge Transport	Mr WALTON, Stanley

# Wednesday 10 July 2013

## **Applied: Modelling (09:00-10:00)**

**-Conveners: Ernest van Dyk**

time	[id] title	presenter
09:00	[14] Lightning Activity Predictions for Single Buoy Moorings	Dr COLLIER, Andrew
09:20	[511] NON-SPECIALIST: Numerical Modelling of Pavement Materials	Dr GLEDHILL, Irvy (Igle)

## **Applied: Meeting (10:30-11:50)**

**-Conveners: Frederik Vorster**

time	[id] title	presenter
10:30	[586] DIVISION MEETING	
11:10	[301] South African night sky brightness during high aerosol epochs	Prof. WINKLER, Hartmut

## **Applied: Telecommunication (13:50-15:10)**

**-Conveners: phil ferrer**

time	[id] title	presenter
13:50	[86] Advancement of quantum communication through entanglement	Ms ISMAIL, Yaseera
14:10	[171] Chromatic dispersion compensation for VCSEL transmission for applications such as Square Kilometre Array South Africa	Mr ROTICH KIPNOO, Enoch
14:30	[311] Implementation and security analysis of fiber-based B92 QKD protocol	Mr SENEKANE, Makhamisa
14:50	[320] FPGA-based emulation of qudit quantum Fourier transform circuit	Mr SENEKANE, Makhamisa

## **Applied: Radiation Physics (15:40-16:40)**

**-Conveners: Trevor Derry**

time	[id] title	presenter
15:40	[387] Analysis of the spatial and spectral neutron distribution of various conceptual core designs with the aim of optimising the SAFARI-1 research reactor.	Mr OLAUWALEYE, olakunle
16:00	[541] Ion Beam Modification of the Structure and Properties of Hexagonal Boron Nitride	Ms ARADI, Emily
16:20	[516] Elemental analysis of Kimberlite and associated Country Rock	Mr TCHONANG POKAHA, Marius

# Friday 12 July 2013

## **Applied: Renewable Energy (09:00-10:00)**

**-Conveners: Frederik Vorster**

time	[id] title	presenter
09:00	[229] On the characterisation of photovoltaic solar cells by means of device parameter extraction algorithms.	Mr BEZUIDENHOUT, Lucian
09:20	[284] Comparison of indoor and outdoor current-voltage characterisation of photovoltaic modules	Ms CROZIER, Jacqui
09:40	[266] Effect of spectral changes on I-V parameters of triple junction solar cells	Mr KWARIKUNDA, Nicholas

## **Applied: Renewable Energy (10:30-11:50)**

**-Conveners: Sampson Mamphweli**

time	[id] title	presenter
10:30	[10] Modeling and real time simulation of instantaneous performance of residential air source heat pump water heater.	Mr TANGWE, Stephen Loh
10:50	[440] Effect of air dynamics in the concentrator and behind the rotor on power output of a Concentrator Augmented Wind Turbine (CAWT)	Ms SHONHIWA, Chipso
11:10	[478] Development of a Large Area Light Beam Induced Current scanner	Dr VORSTER, Frederik