



# SAIP2012

## Tuesday 10 July 2012

### Photonics: Biophotonics (11:00-12:20)

**-Conveners: Pieter Neethling**

time	[id] title	presenter
11:00	[275] Ability of ZnPcS <sub>mix</sub> -phthalocyanine in inducing cellular death in human breast cancer cells (MCF-7) using laser irradiation	Mr MFOUO TYNGA, Ivan
11:20	[144] Response of low intensity laser irradiation on collagen production in diabetic wounded fibroblast cells in vitro	Ms AYUK, Sandra
11:40	[82] Global DNA methylation status of colorectal cancer cells exposed to photodynamic therapy	Mr VORSTER, Louis
12:00	[409] Neuroblastoma cells efficiently photo-transfected using 1064nm femtosecond laser pulses	Dr MTHUNZI, Patience

### Photonics: Spectroscopy (14:30-15:50)

**-Conveners: Erich Rohwer**

time	[id] title	presenter
14:30	[71] Aerosol measurements over CSIR-Paardefontein (South Africa) test range using LIDAR	Mr MUDAU, Azwitamisi Eric
14:50	[317] An improved Nd:YAG laser pumped setup for vacuum ultra violet spectroscopy of carbon monoxide molecules	Mr RIGBY, Charles
15:10	[148] Investigation of the time-dependent electric field induced second harmonic signal from the Si/SiO <sub>2</sub> interface	Mr NDEBEKA, Wilfrid
15:30	[360] Complex refractive index determination using Terahertz time domain spectroscopy	Dr NEETHLING, Pieter

# Wednesday 11 July 2012

## **Photonics: Ultrafast spectroscopy (08:00-09:20)**

**-Conveners: Erich Rohwer**

time	[id] title	presenter
08:20	[101] Observing photo-induced dynamics in the charge density wave compound 4HB-TaSe <sub>2</sub> by means of femtosecond electron diffraction	Ms VON FLOTOW, Andrea
08:40	[535] Photonics Division Group Meeting	Prof. ROHWER, Erich

## **Photonics: Beam propagation (10:55-11:55)**

**-Conveners: Hencharl Strauss**

time	[id] title	presenter
10:55	[32] Essence of re-calibrating optical instruments: Analysis of digital delay line	Dr IREETA, Winston Tumps
11:15	[499] Generation of High Order Modes	Mr NGCOBO, Sandile
11:35	[476] A transmitter-receiver model of the propagation of the second moments of a non-Gaussian non-spherical laser beam through an ABCD system.	Dr MAFUSIRE, Cosmas

## **Photonics: Pulse shaping (16:30-17:50)**

**-Conveners: Andrew Forbes**

time	[id] title	presenter
16:30	[297] Time-Frequency Representations of Ultra Short Laser Pulses for Coherent Control of Quantum Processes	Mr SMIT, Andre Smit
16:50	[390] Process Optimization Utilizing Adaptive Algorithms in a Closed Loop Feedback System	Mr HENDRIKS, Attie
17:10	[338] Prism Pulse Compressor	Mr OKOYE, Raphael
17:30	[352] Femtosecond laser pulse shaping using a 4f-pulse shaper	Mr SPANGENBERG, Dirk

# Thursday 12 July 2012

## Photonics: Quantum Optics (08:00-09:20)

-Conveners: Cosmas Mafusire

time	[id] title	presenter
08:00	[225] Compensating Birefringence Effects in Fibre for Polarisation Encoded QKD	Ms PILLAY, Sharmini
08:20	[190] Realization of B92 QKD Protocol Using id3100 Clavis2 System	Mr SENEKANE, Makhamisa
08:40	[81] Progress toward Ion Trapping at the NLC	Dr UYS, Hermann
09:00	[320] Magneto-Optical Trapping of Rubidium Atoms	ELNOUR, HUZIFA MOHAMMED AHAMED MOHAMMED

## Photonics: Optical trapping (11:00-12:20)

-Conveners: Hermann Uys

time	[id] title	presenter
11:00	[161] Novel Double MOT System for a BEC Experiment	Ms SEMONYO, Malehlohonolo
11:20	[159] A Bose-Einstein Condensation Machine	Dr MORRISSEY, Michael
11:40	[116] Robust qutrit quantum states in atmospheric turbulence	Dr ROUX, Filippus
12:00	[491] Simulating atmospheric turbulence with random phase screens	Mr HAMADOU IBRAHIM, Alpha

## Photonics: Beams (14:10-15:30)

-Conveners: Daniel Esser

time	[id] title	presenter
14:30	[489] High-dimensional Entanglement	Ms MCLAREN, Melanie
14:50	[521] Non-Specialist Talk - Digital Holograms	Prof. FORBES, Andrew

## Photonics: Beams (16:00-17:20)

-Conveners: Hermann Uys

time	[id] title	presenter
16:00	[200] Detection of Bessel-Gauss modes by the use of digital holography	Ms ISMAIL, Yaseera
16:20	[362] Azimuthal Decomposition of Optical Modes	Mrs DUDLEY, Angela
16:40	[513] Angular self reconstruction	Dr LITVIN, Igor
17:00	[314] Modal Analysis through Complex Amplitude and Phase modulation	Mr NAIDOO, Darryl

# Friday 13 July 2012

## Photonics: Lasers (08:00-09:20)

**-Conveners: Filippus Roux**

time	[id] title	presenter
08:00	[373] Tm-doped double-clad fibre laser development	Mr RIAAN STUART COETZEE, Riaan
08:20	[334] Wavelength Selected, Tm:YLF Slab Pump-Source	Dr STRAUSS, Hencharl
08:40	[428] Challenges in developing a Holmium slab laser to pump a rod OPO	Mr JACOBS, Cobus
09:00	[346] Mid-Infrared doubly-resonant Optical Parametric Oscillator based on ZnGeP <sub>2</sub>	Mr KOEN, Wayne

## Photonics: Materials (11:00-12:20)

**-Conveners: Patience Mthunzi**

time	[id] title	presenter
11:00	[416] Computation of Amplified Spontaneous Emission in multi-element laser models	Mr COLLETT, oliver
11:20	[8] Syntheses and characterization of copper chalcogenide nanoparticles and their use in solution processed photovoltaics	Mr KALENGA, Pierre Mubiayi
11:40	[181] Solution – combustion synthesis and photoluminescence property of (Gd,Y)BO <sub>3</sub> :Tb <sup>3+</sup> phosphor powders	Prof. DEJENE, Francis
12:00	[284] Capability of testing the ageing behaviour of incandescent lamps	Ms GOVENDER, Patricia